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THE PRACTICAL
BOOK OF
ARCHITECTURE

C. MALLACK PRICE

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From an original water-colour by Anna Richards Brewster

GREAT TANGLEY MANOR, SURREY, ENGLAND

The garden front, of half-timber construction, was an Elizabethan addition to the older portion of the building

THE
PRACTICAL BOOK
OF
ARCHITECTURE

BY
C. MATLACK PRICE

WITH 255 ILLUSTRATIONS



PHILADELPHIA AND LONDON
J. B. LIPPINCOTT COMPANY

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AN ILLUSTRATED TERMINOLOGY OF ARCHITECTURE

NOTE

Regardless of the extent to which any special subject may be treated for general reading, there must always be certain terms of a more or less technical nature, an understanding of which is essential even on the part of the general reader.

It is the intention, therefore, of the following seven pages to *illustrate* certain of the most common architectural terms. It is obvious that, in limited compass, it would be impossible to illustrate all special architectural terms, nor would it be necessary for the purpose of this book to do so.

This brief "Illustrated Terminology," then, is designed to acquaint the reader with the names of certain commonly seen architectural features, familiarity with which should be regarded as a part of everyone's education.

In some cases the reader will be enabled to learn the architectural name for an often-noticed feature—will learn, for example, that the wall-space between two arches is called a "spandril." In other cases the reader will be enabled to identify some architectural feature the name but not the nature of which is known—will learn for example, by consulting the "Illustrated Terminology," what is a "pediment."



**EGYPTIAN BELL
CAPITAL.
(Karnak.)**



**EGYPTIAN STALK
COLUMN.
(Luxor.)**



**THE DORIC ORDER.
(Modern Version.)**



**THE IONIC ORDER.
(Modern Version.)**



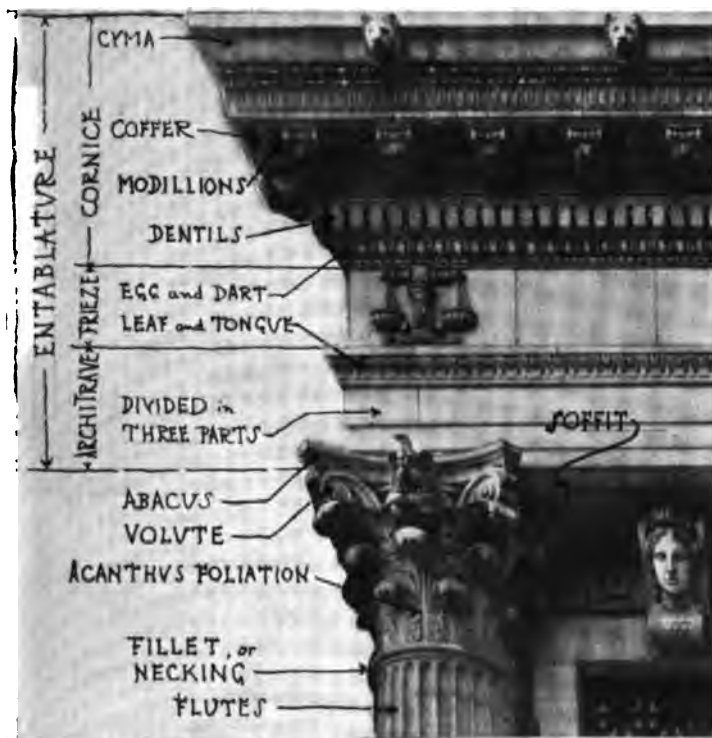
**THE CORINTHIAN ORDER—COLUMN
AND PILASTER.
(Modern Version.)**



**THE TUSCAN ORDER.
(or "Roman Doric.")
(Modern Version.)**



**THE COMPOSITE
ORDER.
(Modern Version.)**



THE PRINCIPAL PARTS OF A CLASSIC ENTABLATURE,
SHOWN IN A MODERN BUILDING.



RUSTICATED MASONRY.



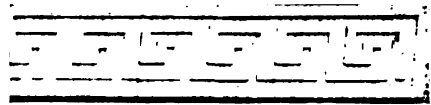
STONE QUOINS
IN BRICK-WORK.



ROCK-FACED
MASONRY.



GREEK KEY, OR FRET MOTIF.



GREEK KEY OR FRET MOTIF.



THE GREEK ANTHEMION
MOTIF.



EGG AND DART
MOULDING AND
BEAD MOULDING.



LEAF AND DART
MOULDING.
(Also called
Leaf and Tongue.)



GREEK WAVE MOTIF.



GREEK WAVE MOTIF



INTERLACED GUILLOCHE.



TWISTED GUILLOCHE.



LOUIS XVI GUILLOCHE.

COMMON ARCHITECTURAL MOTIFS OF CLASSIC ORIGIN.



MARQUISE.



**CURVED PEDIMENT.
(With Cartouche.)**



**CARTOUCHE.
(Modern
French.)**



**CARTOUCHE.
(Italian
Renaissance.)**



**ANGULAR PEDIMENT.
(Space within Pediment
called the Tympanum.)**



SPANDRIL BETWEEN TWO ARCHES.



**CYMA PEDIMENT.
(With Flame Finial.)**



**SPANDRIL DECORATION OF MASQUE
AND FIGURES, WITH CARTOUCHE
OVER ARCH.**



BROKEN PEDIMENT.



BALUSTERS.



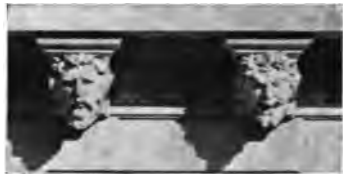
PALLADIAN ENTRANCE.



PALLADIAN WINDOW.



CORBELS—GROTESQUE AND FOLIATED,
(Gothic.)



GROTESQUE CORBELS. (Brackets.)
(Italian Renaissance.)



CONSOLE

FINIAL URN.



DORMER WINDOW WITH CURVED
PEDIMENT, IN A MANSARD ROOF.



FANLIGHT OVER A DOOR.



LINENFOLD
PANEL.



ACANTHUS LEAVES.
(From Corinthian Capital.)



SPIRAL VOLUTE.
(From Ionic Capital.)



COMPOSITE PILASTER CAPITAL.
(With Greek Fret.)



ROMAN DORIC PILASTER CAPITAL.
(With Egg and Dart.)

(Successive ages have developed a great variety of capitals; though all are based on the original Classic Orders.)



ACANTHUS MODILLION.
(With Dentils Above.)



CONSOLE KEY-STONE.
(The other stones in the arch are "Voussoirs.")



LANTERN.



LUNETTE.



ITALIAN
RENAISSANCE
"ARABESQUE."



SPANDRIL DECORATION, CONSISTING OF "ATTRIBUTES" OF ART, MUSIC AND INDUSTRY.



ITALIAN RENAISSANCE USE OF COLUMN AND ARCH.



ROMAN USE OF COLUMN AND ARCH.



CARYATID FIGURE.



TERMINAL CARYATID FIGURE.



TERMINAL FIGURE.



SPINDLES. (After the Italian Renaissance.)

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FOREWORD

THIS book has two distinctly practical objects. Ability to distinguish the various principal styles of architecture, and to know something of these styles, should be a part of the education and culture of every well-informed man and woman.

The aim of Part I, *A Practical Guide to Styles*, is to give, as part of a liberal education, a thorough working knowledge of architecture and architectural styles, so far as is necessary for the use of the general reader, and to give it in so succinct and practical a way that it may easily be assimilated.

Part II, *A Practical Guide to Building*, adds to the above knowledge information of a more practical kind for those who are about to have erected for them houses or other buildings, either in the city or the country, at either large or small expense, or who may be connected in any way with Advisory Boards for the erection of buildings of a more public character.

The chapter on arrangements with architect and contractors treats of a subject never before presented to the lay reader in a direct manner, and a glance at the Table of Contents will show how helpful this portion of the work will prove.

In presenting a practical book on architecture a distinct responsibility devolves upon the author—a responsibility which can be discharged only to the extent to which it may be possible to dispel certain popular illusions which have always clung to the subject, to divide and separate architecture into its several proper phases, and to set forth salient and essential

points in a manner at once clear, accurate and illuminating.

In this task the author feels that the opportunity is as great as the responsibility, and that in the following pages it may be possible permanently to remove the subject of architecture as a whole from its present classification as a subject technical and place it in its true position as a subject of general and intimate contact with the every-day life of all of us.

Architecture is a comprehensive subject, but should not fairly be considered a complex one. That it has often appeared to be involved in complexity and technicality is due to the fact that few critics or expositors have divided the subject into its logical parts for separate consideration.

Architecture involves history, design, construction and practice, which main divisions suggest logical subdivisions. The present volume is not designed to be a history of architecture, nor is it a treatise on any one of the main aspects of the subject in general. It represents, rather, a careful effort to co-relate the essentials in a clear and concise manner, in order that the subject of architecture may become, as it should, a part of any liberal education, and may cease to be regarded as a "technical" subject.

In the preparation of this work the author has endeavoured to give to each consideration of the subject its proper emphasis with regard to each other consideration, in order to develop a complete and serviceable exposition of the whole. The subject of architecture in general is of broad interest to everyone. To those who contemplate building, and who will consequently be called upon to exercise their judgment in the question of architectural design, the subject is of direct interest.

The logical study of architecture, for either class, must begin with some acquaintance with the development of architecture, of historic types and forms, then with architectural design, in which forms are employed to create these types. Here will cease the study of architecture as a historic development, and there will have been acquired a practical familiarity with types of building, styles, and the architectural forms characteristic of these styles.

With this practical familiarity as a preliminary equipment, benefit then may be had from due consideration of the practical side of the subject—the selection of site, study of local conditions, natures of materials and the functions of the architect. This dual presentation of the subject forms the author's plan for the present work.

The author wishes to acknowledge with gratitude the kind co-operation of the following architects and others who have generously extended courtesy in the matter of illustrations:

To the architectural profession is due the present degree of merit attained by the architecture of this country, for the American architect has been forced to deal with conditions more difficult and more complex than have confronted the architects of other lands and other times.

It would be difficult to overstate the further impetus to architectural ideals and practice which would be given by a more general, popular appreciation and understanding of the subject, and any effort to develop this understanding so that it will benefit architecture and public alike must call for the most serious and sincere effort of any writer in the field of architecture.

In addition to an expression of indebtedness to all

those architects whose works have contributed to the illustration of this book, the author wishes to acknowledge with gratitude assistance or permission connected with certain illustrations. These acknowledgments include Messrs. H. D. Eberlein, W. T. R. Price, Julian Buckley, H. W. Frohne, Braun & Company, and the *Architectural Record*. In the matter of text, the author's thanks are due to *The Churchman* for courteous permission to quote the major portion of the author's "Symbolism in Architecture," and to *Arts and Decoration* for courteous permission to paraphrase certain portions of the author's contributions thereto, relative to "The English Point of View in Architecture," "Building in Brick," and "The Inherent Qualities of Building Materials."

C. MATLACK PRICE

CONTENTS

PART I

A PRACTICAL GUIDE TO STYLES

CHAPTER	PAGE
I. ARCHITECTURE	15
The Nature of Architecture and its Place as Part of a Liberal Education. The Value and Benefit of Architectural Appreciation. Architecture not a Technical Subject. Some Fundamentals of Architecture. Understanding of Modern Architecture Dependent upon Acquaintance with Past Historic Styles.	
II. THE EVOLUTION OF ARCHITECTURE	28
The Growth of the Great Architectural Styles. The Architecture of Egypt, of Assyria, of Greece, of Rome. Byzantine and Romanesque Architecture.	
III. THE EVOLUTION OF ARCHITECTURE (Continued)	47
Gothic Architecture and Renaissance Architecture. A Study of the Differing Expressions of those Two Great Styles in Italy, France, Spain, Belgium, England and Germany.	
IV. THE CLASSIC IDEAL	73
A Study of the Immortal Qualities of Classic Architecture. Its Manifestations in Several "Classic" Revivals. The Important Place of Classic Architecture in the Design of Public Buildings. The School of the <i>Beaux-Arts</i> , its Teachings and its Wide Influence.	
V. BYZANTINE, ROMANESQUE AND GOTHIC DERIVATIONS	106
The "Romanesque Revival" in America. The Place of Romanesque Styles in the Architecture of To-day. Gothic Derivations, Ecclesiastical, Collegiate, Military and Secular in America.	
VI. ENGLISH DERIVATIONS, EARLY AND MODERN	132
The Importance, Causes and Meaning of English Influences on American Architecture. The Anglo-American Country-House. The Adaptability of English Collegiate Architecture.	
VII. LATIN DERIVATIONS IN AMERICAN ARCHITECTURE	157
Architectural Types Adapted from Italy, France and Spain. The Italian Villa in America. The Important Place of Italian Renaissance Architecture. French Influences in Châteaux, Modern City Houses and Hotels. Little Appreciated Architectural Legacy from Spain.	

VIII. NATIVE AMERICAN ARCHITECTURE.....	173
American Types Characteristic of New England, The Middle Atlantic States, and The South. Creole and Spanish Colonial Architecture. "Secessionist" Work in the Middle West, the "Craftsman Idea" and Some Comments on the Bungalow.	
IX. ARCHITECTURAL ADDENDA.....	203
New Styles Applied to Familiar Uses, and Old Styles Applied to New Uses. " <i>L'Art Nouveau</i> ," The "Secessionists" and "Modernists." The City House, The Office Building, The Loft Building, The Modern Hotel, the Apartment House and the Great Railroad Terminal.	

PART II

A PRACTICAL GUIDE TO BUILDING

CHAPTER	PAGE
I. THE SELECTION OF LOCATION, STYLE, MATERIAL AND ARCHITECT	225
Style from Viewpoints of Relation to Site, Material, General Appropriateness, etc. Local Materials and Local Labour Conditions. Foresight and Advice. Choosing an Architect.	
II. ARCHITECT AND CLIENT.....	244
Building is a Business Transaction. How to Consult the Architect. The Nature of the Architect's Services. What Architect and Client should each Rightly Expect from the Other. Basis of Charges, Supervision, "Extras," etc. Architectural Drawings and Specifications.	
III. MATERIALS AND CONSTRUCTION.....	274
Consideration of Physical and Æsthetic Properties of Building Materials. Natures, Suitability, Comparative Costs, etc., of Building Materials. The Importance of Texture. Associated Suitability of Materials and Styles.	
IV. PLANS AND DETAILS.....	304
Different Kinds of Plans. Importance of a Definite Method of Procedure in Developing Both Plans and Details. Notes on Windows, Doors, Chimneys, Stairways, etc. Woodwork, Interior Trim and Finish, Hardware, Lighting and Plumbing Fixtures, etc. The Best Manner in which to Insure the Fulfilment of Requirements.	

ILLUSTRATIONS

Great Tangley Manor, Surrey, England.....*Frontispiece*
 From an Original Water-colour Painting by Anna Richards
 Brewster.

PLATE	PAGE
ARCHITECTURAL TERMINOLOGY, ILLUSTRATED....	13
I. Egyptian Bell Capital Column, Egyptian Stalk Column, Doric Order (Modern), Ionic Order (Modern), Corinthian Order (Modern), Tuscan Order (Modern), Composite Order (Modern).	
II. Principal Parts of a Classic Entablature, Rusticated Masonry, Quoins, Rock-Faced Masonry.	
III. Common Architectural Motifs of Classic Origin (Greek Key, Fret, Anthemion, Egg-and-Dart, Leaf-and-Dart, Wave and Guilloche).	
IV. Marquise, Cartouches (French and Italian), Spandrels, Pediments (Curved, Angular, Cyma, Broken), Balusters.	
V. Palladian Entrance, Palladian Window, Corbels, Console, Finial, Dormer Window in Mansard Roof, Fanlight.	
VI. Linnenfold Panel, Greek Acanthus, Spiral Volute, Pilaster Capitals, Modillion and Dentils, Lantern, Console Keystone, Renaissance Arabesque, Lunette.	
VII. Attributes, Renaissance and Roman Uses of Arch and Columns, Caryatid Figure, Terminal Caryatid, Terminal Figure, Spindles.	

PART I.

	PAGE
The Towers of the Château of Langeais.....	16
A Typical American Dwelling of the Style Erroneously Called "Queen Anne".....	16
"Monticello," The Virginia Home of Thomas Jefferson.....	17
The Woolworth Building, seen through the Arcade of the New York Municipal Building.....	18
Two Details of the Cleveland Post Office and Federal Building.....	19
A Greek Doric Temple at Segesta, Sicily.....	34
The Caryatid Porch of the Greek (Ionic), Erechtheum, Athens.....	34
The Corinthian Temple of Jupiter Stator, Athens.....	35
The Arch of Constantine, Rome.....	35
The Cathedral of St. Mark, Venice.....	38
Detail: Cloister of St. Paul-beyond-the-walls, Rome.....	38
Typical Byzantine Columns, Capitals and Carving.....	39
The Cathedral of Notre Dame, Paris.....	48
A Typical Gothic Detail.....	48
Rose Window of the Cathedral of Notre Dame, Paris.....	49
Recessed Doorway of the Cathedral of Notre Dame, Paris.....	49
Nave, interior; Cathedral of Notre Dame, Paris.....	50
Transept, interior; Cathedral of Notre Dame, Paris.....	50
Gothic Chimeras of the Cathedral of Notre Dame, Paris.....	51
Gothic Gargoyles of the Cathedral of Notre Dame, Paris, France....	51
Durham Cathedral from the River, Durham, England.....	52

Westminster Abbey, London, England.....	52
Gateway, St. John's College, Cambridge, England.....	53
Gateway, Trinity College, Cambridge, England.....	53
Doorway of "La Psalette," Tours, France.....	56
Tower of "La Psalette," Tours, France.....	56
Doorway of Château of Langeais, France.....	57
Courtyard of the Maison de Tristan l'Hermitte, Tours, France.....	57
The Town Hall, Bruges, Belgium.....	58
The Church at Malines, Belgium.....	58
The Cathedral of Toledo, Spain.....	59
The Puerta del Sol, Toledo, Spain.....	59
The Palace of the Doges, Venice, Italy.....	60
The Palazzo della Ca D'Oro, Venice, Italy.....	60
Courtyard of the Palazzo Farnese, Rome, Italy.....	61
Colonnade of the Vatican, Rome, Italy.....	61
The Church of S. Maria della Salute, Venice, Italy.....	62
Doorway of the Library of the Cathedral of Sienna, Italy.....	63
The Entrance of Whitehall, London, England.....	68
St. Paul's Cathedral, London, England.....	68
Classic Derivations in Modern American Bank Buildings (Two Examples).....	74
The New York City Post Office.....	75
The New Harvard Law School, Cambridge, Mass.....	75
A Water Temple at Sunol, California.....	76
A Tea-House of Classic Design, on a Long Island (N. Y.) Country Estate.....	76
The Marble Arch, Hyde Park, London, England.....	77
The Fogg Museum of Art, Cambridge, Mass.....	77
The Cour de Marbre, Palace of Versailles, France.....	78
Colonnade of the Louvre, Paris, France.....	78
The Central Pediment of the Louvre, Paris, France.....	79
The Petit Trianon, Versailles, France.....	79
The "Orangerie," Bois du Boulogne, Paris, France.....	80
The Château de Bagatelle, Bois du Boulogne, Paris, France.....	80
A French Classic Shop, New York City.....	81
A French Classic Publishing Building, New York City.....	81
Colonnade Row (La Grange Terrace), New York City.....	88
A Georgian Porch Detail (Modern), New Haven, Conn.....	89
A "Classic Revival" Porch, Baltimore, Md.....	89
Details from the Grand Palais des Champs Elysées, Paris, France (Two views).....	102
A Fifth Avenue Shop Front, in the Modern French (Beaux-Arts) Style.....	103
A New York City House Front in the Modern French (Beaux-Arts) Style.....	104
Engaged Columns of the Main Façade of the New York Public Library.....	105
A Modern Church of Romanesque Derivation, Madison Square Presbyterian Church, New York City.....	106
Trinity Church, Boston, Massachusetts.....	106
Drawing for the Porch of the Cathedral of Baltimore, Md.....	114
St. Thomas' Church, New York City.....	115
Gothic Arched Entrance to Quadrangle, Graduate School, Princeton University.....	122
Grotesques in the Gothic Manner.....	123
Rib-vaulted Vestibule, in the Gothic Style, Graduate School, Princeton University.....	123

ILLUSTRATIONS

9

The Provost's Tower, University of Pennsylvania, Philadelphia.....	124
Chapel of the Military Academy at West Point.....	125
The Woolworth Building, New York City.....	126
Details of the Woolworth Building, New York City (Four Views)....	127
An American Country House of English Derivation.....	132
Detail: Garden Front of an English-derived American Country House	133
Detail: Terrace and Sun-Dial, an English-derived American Country House.....	134
Tudor Derivation in an American Country House.....	135
Old Half-Timber City Houses, Holborn, London.....	136
Half-timber Dormitory Building, Princeton, N. J.....	136
Heale House, Salisbury, England.....	137
An English Country House, Walton on Thames.....	140
English Derivation in an American Country House.....	141
American Country House of Composite Origin.....	141
Two Modern English Derivations in American Country Houses.....	142
Two English Derivations in Pennsylvania.....	143
A Typical English "Neighbourhood" Development.....	146
A Typical English Suburban House.....	146
Two Modern English Suburban Houses in Brick.....	147
Private Library Building, New York City.....	158
Detail: Private Library Building, New York City.....	159
Italian Renaissance Derivation in a Fifth Avenue Shop Front, New York City.....	160
The Public Library of Boston, Massachusetts.....	160
Italian Renaissance Derivation in the Loggia of a Modern American House.....	160
Italian Renaissance Derivation in a New York City Shop Front.....	161
A New York City Shop Front, with Sgraffito Decoration.....	161
Triple Arched Loggia (Italian Renaissance Derivation) in a New York City Shop Front.....	161
Sgraffito Decoration (Italian Renaissance Derivation) in a New York City Shop Front.....	161
An Italian Derivation in an American Country House, General View..	164
An Italian Derivation in an American Country House, a Terrace Courtyard.....	165
An Italian Derivation in an American Country House, from a Loggia	166
An Italian Derivation in an American Country House, Wall Fountain	167
An Italian Derivation in an American Country House, Court.....	167
An Italian Derivation in an American Country House, Pool and Pavilion.....	168
An Italian Villa Derivation, Front View.....	168
Patio at Pan-American Union Building, Washington, D. C.....	168
An Italian Villa Derivation, Garden Front.....	169
The Château de Langeais, France.....	169
Spanish-Italian Patio of a Modern American Residence in California.	170
Typical Spanish Buildings, Spain.....	170
Spanish Renaissance Derivation in Window Treatment in California.	171
Spanish Renaissance Details in an Office Building, Chicago, Illinois..	171
An Early New England Dwelling of Gambrel Roof Type, Hadlyme, Connecticut.....	174
A Typical Dutch Colonial Dwelling, at Hackensack, New Jersey....	174
A Georgian Colonial Pediment Porch, with Palladian Window Above..	175
A Georgian Derivation in the Porch of a Modern American Residence, Germantown, Pa.....	175

"Wynnestay," an Early Colonial Residence near Philadelphia.....	188
A Local Modern Derivation of the Early Pennsylvania Type of Colonial Residence.....	188
"Mt. Pleasant and its Dependencies," Philadelphia.....	188
"Cliveden," Philadelphia.....	188
Country House at Valley Forge, Pa., Derived from Early Local Prototypes.....	189
Country House of Local "Ledge Stone," at Germantown, Pa.....	189
The State House, "Independence Hall," Philadelphia.....	189
A Modern American Country House Derived from the Southern Type of Plantation Dwelling.....	190
"Whitehall," Anne Arundel County, Maryland.....	192
"The White House," Washington, D. C.....	192
Two Examples of the Creole Plantation Villa, New Orleans, Louisiana.....	193
San Gabriel Mission, California.....	194
Country House of Spanish Derivation, Sierra Madre, California.....	194
Four Views of a Modern Residence of Spanish Derivation, Typical of California.....	195
A Typical Recent American "Seaside Villa" of no Stylistic Derivation.....	196
A Typical Recent American Suburban Dwelling of the "Picturesque" Type.....	196
Two Modern American Country House Developments.....	197
The Style of the "American Secessionist" seen in a City Residence in Grand Rapids, Michigan.....	198
An Example of the "Craftsman" Type of Country Dwelling.....	198
Japanese Influence in the California Bungalow.....	199
A Typical "Bungalow" of Native Redwood, California.....	199
Characteristic Design of School of the Austrian or Viennese "Secession".....	204
The "Art Nouveau," in a Parisian Shop-front.....	204
Flemish Renaissance City Houses on the Rue Flamande, Bruges, Belgium.....	208
Flemish Renaissance Derivation in a Modern New York City Residence.....	208
Two Modern American City Residences, Typical of the Newer Developments.....	209
The Metropolitan Life Insurance Building, New York City.....	212
The Equitable Life Insurance Building, New York City.....	212
The Hotel Vanderbilt, New York City.....	213
The Pennsylvania Railroad Station, New York City.....	220
The Grand Central Railroad Station, New York City.....	220

PART II

Successful Design for a Level Site.....	228
Successful Design for a Hillside Site.....	228
A Modern Country House Essentially American.....	229
A Small Cottage of Native Derivation.....	229
Simplicity and Charm in a Small English Cottage (2 views).....	238
Two Typical Modern English "Detached Houses".....	239
An Architect's Preliminary Drawing for a Country House.....	244
The Country House as Actually Executed.....	244
A Preliminary Drawing for a Small Village Library.....	266
Reproduction (Reduced) of a 1/4-Inch Working Drawing of a House Elevation.....	266
Reproduction (Reduced) of a 1/4-Inch Working Drawing of a House Floor-Plan.....	266

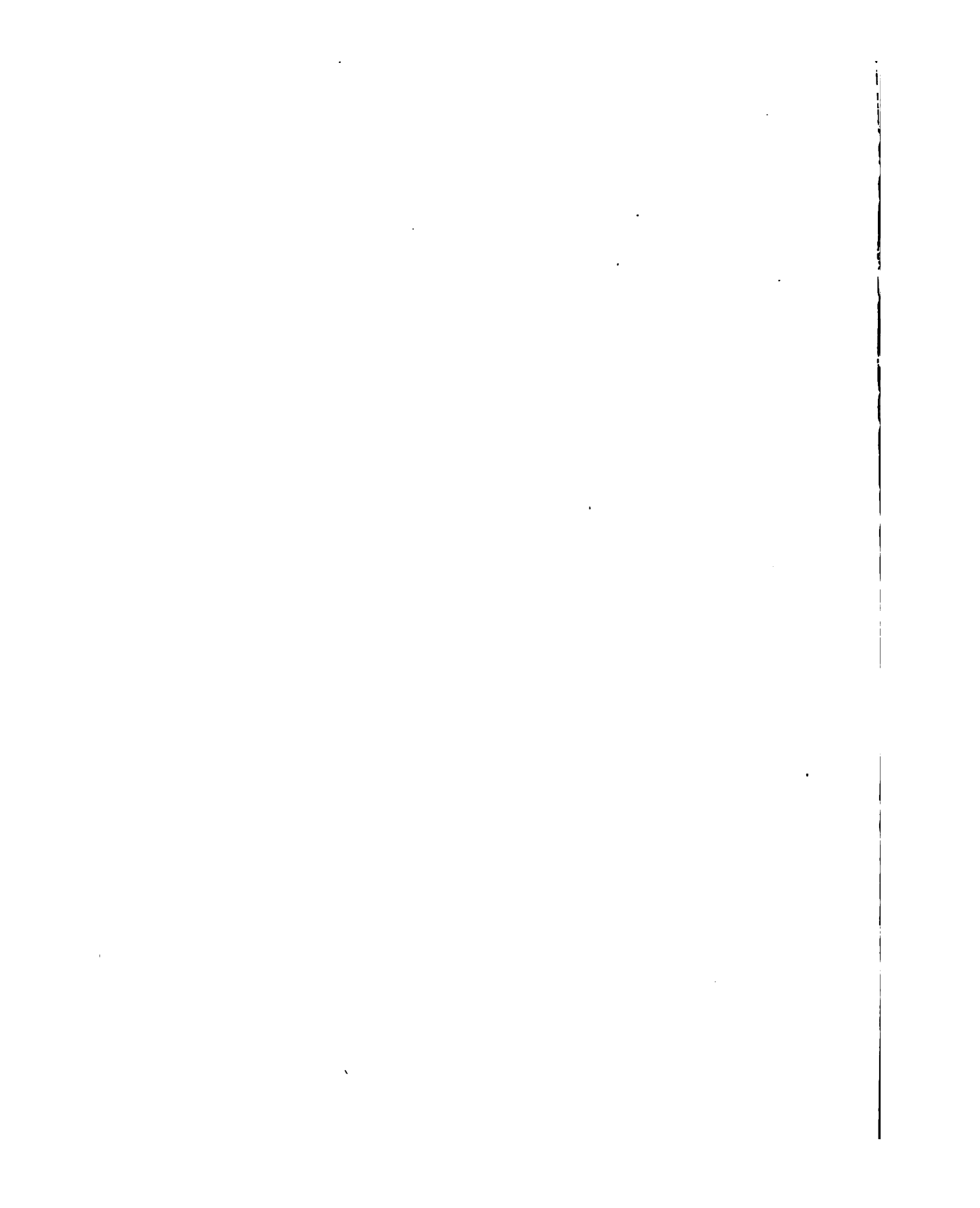
ILLUSTRATIONS

11

Reproduction (Actual Size) of a Portion of a ¼-Inch Working Drawing of a House Elevation	267
Reproduction (Actual Size) of a Portion of a ¼-Inch Working Drawing of a House Floor-Plan	267
Reproduction (Actual Size) of a Portion of a 1¼-Inch Scale Detail of Tile Eaves	267
Reproduction (Actual Size) of a Portion of a Full-size Working Drawing of the Top of a Wainscot	268
An Architect's <i>Projet</i> for a National Memorial Monument	272
The Possibilities of Building Materials seen in an American Country House near Chicago	276
Two Instances of the Decorative Importance of Texture	277
Use of Local Materials in Two Typical Modern American Dwellings of Moderate Cost	278
An American Expression of the Modern English Country House	279
The Same House in Local Stone and Half-timber Construction	279
Good Relation of Design and Materials in a Large Country House near Philadelphia	294
The Expression of Texture in Building Materials	295
The Use of Stucco as an Exterior Finish	295
A Modern American Country House of Actual Half-Timber Construction	298
Two Details of Door and Window Treatments	318
Two Typical Examples of the Modern English Country House	319
Modern American Real-Estate Houses	324
A Row of Houses in the "Model Village" of Letchworth, England	324
The Application of Architecture to Utilitarian Buildings in a California Power-house (two views)	325



PART I
A PRACTICAL GUIDE TO STYLES



THE PRACTICAL BOOK OF ARCHITECTURE

CHAPTER I ARCHITECTURE

THE NATURE OF ARCHITECTURE AND ITS PLACE AS PART OF A LIBERAL EDUCATION. THE VALUE AND BENEFIT OF ARCHITECTURAL APPRECIATION. ARCHITECTURE NOT A TECHNICAL SUBJECT. SOME FUNDAMENTALS OF ARCHITECTURE. UNDERSTANDING OF MODERN ARCHITECTURE DEPENDENT UPON ACQUAINTANCE WITH PAST HISTORIC STYLES

TO attempt to define architecture, or art, is to fall into the danger of dealing in catch-phrases. Few definitions are safe, and the best of them are more clever than accurate. Architecture has been called "the art of building beautifully" which, perhaps, is as valuable as most epigrammatic definitions. The attempt has been made from the time of Vitruvius, and an early English writer, paraphrasing that classic authority, states that "Well-building hath three conditions: Commodity, Firmness and Delight." Perhaps it would be hard to find any terse characterisation so accurately applicable to all architecture—that a building should be appropriate to its use, strongly built, and pleasing to look upon. This interesting statement, however, could not be called, exactly, a definition of architecture, although it gives us a reasonably clear idea of the aim and purpose of architecture.

Taking any one of these three essentials alone as the aim of architecture, the world would have been, and

would be to-day, a heavy loser. Conceive first the aspect of architecture if "Commodity" or the intended use of the building had been always its sole governing architectural factor. Grain elevators and factories are built primarily with a view to use, and include also the second essential of "Firmness," but ignore the third.

The third, however, the building which has been so beautifully designed that it is a "Delight," would be but a short-lived one if it were not firmly built, and a useless one if it served no purpose.

We must think of architecture, then, regardless of its divisions into domestic, monumental or ecclesiastical buildings, as a perfect co-relation of the three essentials of suitability, strength and beauty. In certain types of building one of these considerations, or two, may somewhat overbalance—each of the three may not hold equal importance. Generally speaking, however, *architecture* must take cognisance of all, and by keeping the three essentials constantly in mind in our individual consideration of any given building, we will establish from the outset a certain basis of universal application, regardless of "style" or any other detail. We will ask ourselves: "What kind of a building is this? What was its purpose? Does its design express this purpose? Is it well-built, or is its construction cheap and dishonest? Is it pleasing in its form and detail?" These are basic considerations of significance, entirely independent of whether it be designed in the style of the Italian Renaissance or Modern French; whether we are looking at a church or a theatre.

It is an interesting circumstance that this country affords an opportunity to study adaptations—in many cases excellent adaptations—of the architectural styles of all countries and all periods. Architecturally, as



THE TOWERS OF THE CHÂTEAU OF LANGEAIS



A TYPICAL AMERICAN DWELLING, OF THE STYLE
ERRONEOUSLY CALLED "QUEEN ANNE"

Above and behind our most intimate architecture, as well as our more imposing buildings, looms the great background of architectural precedent and historic origin, full of an interest which should make itself felt to every intelligently observant person



Photograph by Julian Buckley

A SOUTHERN MANSION DESIGNED IN THE "CLASSIC TASTE" BY ITS OWNER,
THOMAS JEFFERSON, IN 1770

The architectural ability of Jefferson reflects the time in which a scholarly appreciation of architecture, even as an amateur, was regarded as a part of the liberal education of a gentleman
("Monticello," Virginia, the home of Thomas Jefferson)

well as racially, America has been the melting-pot. There has been no one style, because in this country we are not one people, but many—and there has been no typical American architecture, as a noted architect recently pointed out, because we have no typical climate in America, no typical landscape or no typical civilisation. This, however, is a question of “style,” to pursue which further at this point would be to depart from broad generalities.

At the outset it seems a part of this work to point out forcibly the importance of some degree of general understanding and appreciation of the broad principles of architecture. Many of us seldom come in contact with paintings, or sculpture, or other fine arts. We are not obliged to listen to music or to follow the drama. If we go out-doors, however, we cannot fail to see buildings everywhere—buildings good, bad and indifferent. Some are important, all are interesting in some particular. The unfortunate thing is that so many people see only buildings, and have never trained themselves to see architecture. The aspect of buildings, quite apart from any individual interests of the prospective builder, is so inseparably a part of our daily lives that it would seem highly desirable to develop at least a high-school course on the appreciation of architecture. Architecture is not a “special” subject—it is a universal subject confronting us at every turn.

There was a time when a knowledge of architecture, together with the “Classics,” formed an important part of the education of a gentleman. The stately and classical dignity of many of the fine old manor houses of the South was due more to the architectural education of their owners than to the taste of the master-builders. Thomas Jefferson made the actual drawings for

“Monticello,” as well as for the buildings of the University of Virginia. He was not an architect, but architecture had been part of his education. To-day there are few men who, between business and social activities, would have time to draw the plans for their houses, even if they had the ability. The architect is better equipped for this work; but an architectural education, no matter how slight, would assure intelligent and effective understanding of the architect’s work. To most people the architect’s work is far more mysterious and incomprehensible than that of the lawyer or the doctor, while it should by all rights be readily and intelligently understood.

It is assumed that anyone about to build becomes, perforce, interested in architecture, but by reason of a late interest, and no personal basis of architectural conviction, he is obliged either to make a hasty and half-considered survey of the subject, or to accept the varied and usually conflicting architectural advices of his friends, many of whom are no better equipped in this direction than he. His very ignorance makes him suspicious that the architect may design for him a building which he will not like, whereas, had he any appreciation or understanding of architecture, he would be under no apprehensions.

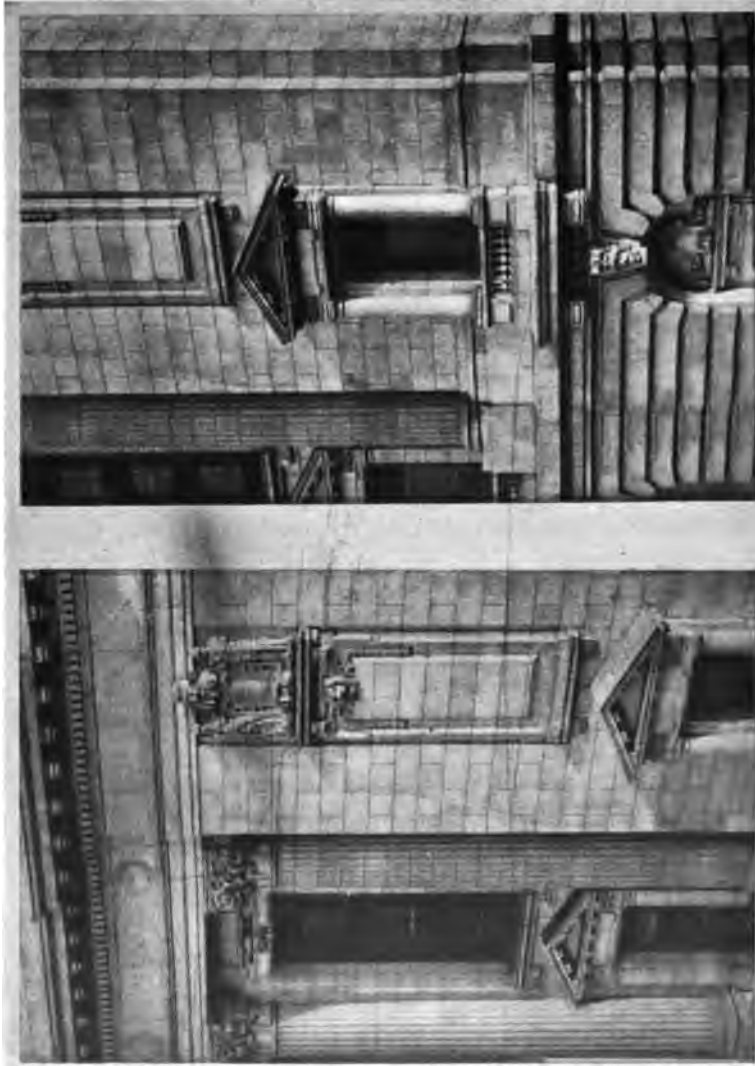
In addition to the prospective builder, there is the much larger class comprised of those who probably never will build for themselves, or be called upon to exercise any architectural knowledge in so direct a manner. To these, however, no less than to the prospective builder, architecture should be an open book. Their walks abroad would become of abundant and varied interest, and every building would hold a story which they had never before been able to read.



Photograph by Julian Buckley

"THE BATTLE OF THE STYLES"

The great tower of the Woolworth Building, carried out in a free modernised rendering of Gothic architecture, is seen through the Classic-Renaissance colonnade of the New York Municipal Building, while a glimpse is also visible of the old Eighteenth Century Franco-Anglo-Classic New York City Hall



Arnold W. Brunner, Architect

SUCH PUBLIC EDIFICES AS POST-OFFICES, LIBRARIES AND OTHER MONUMENTAL BUILDINGS SHOULD HOLD MUCH OF INTEREST FOR THE LAY STUDENT OF ARCHITECTURE

On what Greek order are the columns based? What is the pointed head of the window called? What kind of stone courses are used in the base of the building, and why are these different from the masonry above?

(The Cleveland Post-office and Federal Building)

Nor should allusion be omitted to the citizen who is called upon, as a member of a board, to pass judgment on the design of an important public building. It is unfortunate if a private house be bungled—calamitous in the case of a library or a city hall. In this connection we are impressed by the importance of architectural education as a civic obligation, as a duty to the community. Public money is being spent yearly throughout the country for the erection of important public buildings, yet *architecturally*, the public has never seen the buildings. It is by no means to be recommended, however, that public opinions on architecture be set up to overthrow professional opinions on architecture, excepting in the case of an incompetent “political” architect. It is rather the contention that public appreciation of architecture will result in securing better results through an understanding of what the architect is trying to do. The board may insist upon ruining the appearance of an important building in order to save a few thousand dollars, or may vote down the architect’s project for a splendid monumental approach. If the members of the board, and the people themselves, were architecturally educated, the necessary funds would be forthcoming through public subscription. To appreciate the possibilities of a noble architectural idea is to desire its execution. In the second part of this book there will be attempted an introduction to that interesting, but unknown individual, the Architect.

To understand architecture has been supposed to be a “gift,” an implication of some peculiar talent or taste. This, however, may readily be proved an erroneous idea, for although architecture is no less an art than painting or music, it is different in certain salient

particulars. A masterpiece of painting or of music is the result of inspiration—a masterpiece of architecture is the result of evolution. To understand painting or music is to understand their underlying inspiration—to understand architecture one need but understand the stages of architectural evolution which produced a given example. Nor should understanding be confused with enjoyment. Most receptive natures find enjoyment in art, in music, in architecture, in nature, in all that surrounds them; but their enjoyment is a thing of the senses, in which understanding plays no part. Knowledge raises their understanding to the level of intelligent appreciation.

To see in all architecture a product of evolution, is to possess at once the key to its study. Obviously the art of building, at first more a necessity than an art, has from the dawn of civilisation been very closely linked with the development of the human race, and has, in a measure, influenced the people who created it. In this connection between human and architectural evolution there is more than a mere sentimental coincidence. Different kinds of civilisation, characterised by different religious and social developments all produced different architectural manifestations, sometimes new, often evolved from earlier forms. The prosperity of kingdoms, their days of degeneracy, and their downfall are mirrored by contemporary architectural monuments as vividly as in the words of contemporary historians. Being a work of the hand of man, architecture has always reflected the mind of man—and in this alone should lie much of its interest.

No architecture of the past, perhaps, has been so little expressive as our own architecture of to-day, unless future ages are to read in it the commentary that

“at this time” artistic ideas and ideals were in a transitional stage, the study and adaptation of earlier styles of other lands characterised North American architecture, and in the security of employing recognised and meritorious types, we had no desire to experiment, or to evolve originalia.

A good many architectural critics have bitterly assailed the times because the American nation, since its earlier days, has created no characteristic architectural style. There are, however, two sides to this contention.

Looking back over the evolution of architectural styles, it will be found that new styles arose only when old ones were out-worn, when conditions made them obsolete, or when some new social or religious change logically dictated new architectural forms. No new style was founded without reason, and solely because of a desire for novelty. In no case has any good come of an effort to be original solely for the sake of originality. The “Art Nouveau” was an illustration of this—an effort to evolve new forms for the sole purpose of breaking what certain restless spirits believed to be the monotony of existing artistic ideas. And the “Art Nouveau” movement is now remembered as an epidemic of ephemeral madness, leaving after it no trace or influence. It died because it had no reason ever to have been created, and because, in itself, it was not logical or legitimate.

That the last century, almost, in this country has seen the development of no striking “national” architecture is not surprising, and should not be distressing. In architecture, above all other arts, it is the part of wisdom to proceed slowly, and to be very sure of each step. Sincere adaptations of old or ancient styles are

much to be preferred if the alternative is a meaningless style evolved only as a *tour de force*—an attempt to prove an originality which does not exist. If this country is destined to produce a “style,” recognisable as such, nothing could prevent it—our legacies of past styles from other lands would be as straws in the current. It has been so always.

Nor can our present adaptations of many styles be construed as a contradiction to the idea of architectural evolution. It is a far more natural condition that many styles prevail in equal favour, than that one style should be paramount in this country at the present time.

The present age is one of travel and of education—of photography and of illustration. And human nature is accountable for the selective proclivity. Every one of us instinctively cherishes some personal ideal of a country-house, for example, be it an Italian villa, an English manor, or a French château. That ideal would not be sacrificed for the sake of conformity to some “national” style of architecture. We would still take pages out of the picture-book of all past architecture.

Italian villas are not, necessarily, consistent in their architectural style because the Italians were architecturally consistent. The men who built them, and for whom they were built, knew of no other type. They were not distracted by a variety of other, and perhaps equally pleasing, ideas, and consequently, by following the prevalent style, there was evolved a distinctive type.

As proof of the effect which the selective proclivity of the individual may have upon architectural design, consider the architecture of England. In the matter of style there was not so much conservatism or consistency as has been supposed. Once the landed gentry

began to travel, new architectural ideas came in. The Italian garden was admired, and many Italian gardens were laid out on English estates. The Englishman preferred his own kind of house, so he did not adapt the Italian villa. Many Italian painters, decorators and artisans, however, were brought over to create interiors and works of art to gratify the "classic" tastes which had arisen as a result of travel. Contact with the Far East created a mania for "the Chinese taste," mostly evidenced in Chippendale's furniture, but nevertheless potently in favour in many other directions—and certainly a style as alien to English traditions as could be conceived. Later came the Brothers Adam, imprinting the architecture and furniture of their time with a classicism which was not to wear off until the late Georgian period.

The more intercourse of ideas, the more travel, the more familiarity with varied styles, certainly the less will be the likelihood of the development of any one essentially new style. And because the intelligent and practical study of the architecture of this country to-day must be largely a study of adaptations, it is essential to be able to trace derivations with accuracy and ease. It would be impossible to acquire any understanding or appreciation of the architecture of this country to-day without a practical familiarity with the great architectural styles of Europe.

With this in view, the following two chapters are designed to outline concisely the evolution of historic architecture, with special reference to the characteristics of the styles, discussed consecutively, and with as great a degree of brevity as is consistent with adequate presentation.

Before proceeding, however, to traverse the ages

from the time of the Egyptian temple-builders up to the present day, a few absolute fundamentals of design should be comprehended by the reader in order that it may be seen to what extent the architects of the historic styles succeeded in realising their intentions.

It would be an easy matter, in this direction, to plunge the reader into a maze of technicalities, whereas a real grasp of four great essentials of architectural design may be said to comprehend all lesser points. If these four essentials have been rationally realised in a given building, it is safe to assume that the building is worthy of the name of "architecture."

The design of a building, regardless of its "style" or its function or uses, should be *expressive* and *appropriate*, and the designer should have demonstrated in his finished building his grasp of the architectural essential of *scale* and the pictorial essential of *light-and-shade*.

Briefly considering these four essentials—a building defeats its own design if, while seemingly a tall and upright building, this effect is destroyed by strong horizontal lines. The result is a distressing optical and mental confusion on the part of the beholder—an inevitable doubt as to whether or not the architect had been perfectly certain in his own mind as to what he was trying to express. The tall, upright building should express its height, with an introduction of horizontal members so subsidiary to the vertical as to serve only to break the monotony. A long, low building should contain no conspicuous elements in its design which will detract from its horizontality. In short, any building should immediately and unequivocally express the intention of its designer, should be a building massive and dignified, light and graceful, tall and upright, or low

and spreading, or of any other type. If we are assailed by any doubt or conjecture in so important an aspect of the building, we may well expect to find further serious evidences of inept design.

On the score of appropriateness, there is, perhaps, little to say which would not be obvious. The *design* of a building, irrespective of its *style*, should be expressive of the purpose or nature of the building, and hence appropriate. A little millinery shop should not look like a bank building. Appropriateness inevitably involves style, because certain styles are peculiarly suited to the expression of certain ideas. Classic styles are dignified, modern French styles are festive, Italian styles are refined and graceful—and so on through the pages of architecture. The able architect is the architect who can unerringly select for the design of a given building the style which will most clearly and effectively express the intent of that building.

“Scale” is a word seldom met with outside the architectural draughting room, or outside the conversation of designers, and this is unfortunate, because the term is not a “technical” one, and errors in scale are more common than errors of any other kind—be the question involved one of architecture, furniture design, or even the selection of a picture frame.

In plain diction, “scale” involves the relationship of parts, whether well or ill related. If a window, for example, is of exactly the right proportions for a wall-space which it occupies, the architect says it is “in scale.” If, however, this window is too large or too small, he says it is “out of scale.” A façade may be admirably designed, and in every way pleasing, with the exception of one fatal defect: the cornice, for instance, may be “out of scale”—may be overpoweringly

heavy, or may be insignificant and inadequate in relation, or in "scale" with the rest of the design. A single moulding, a single bracket may be "out of scale," marring the whole design. No member of a building is too large or too small to escape the necessity of "scale." An entire wing or a tower may be "out of scale," or a single feature (apparently) so unimportant as the keystone over a window. It is apparent, then, that an architect's success as measured by his works must depend very largely on his eye for "scale"—which might be called, perhaps, his eye for *relative proportion*.

It will be conceded at once that effects of light and shade must play an important part in the design of a building, and cognate with it, the handling of voids and solids. Architecturally, the "voids" in a design are all windows and door openings, loggias or arcades; the "solids," all of the building which is not "void." Skilful balance of void and solid is an essential in architectural design, as will be apparent in one's observation of any building, studied with this in mind. Light and shade must also be skilfully manipulated, and mistakes most often occur through too much study of a building "on paper," as a composition of *lines*, without sufficient visualisation of the effect of the executed work. Every projection from the face of a building casts a definite shadow, and the effect of these shadows is as much a part of the whole design as the detail of a moulding or the interpretation of a classic order.

From the foregoing observations on expression, appropriateness, scale and light-and-shadow, it must be apparent that the able architect needs much mental equipment in addition to his knowledge of historic styles or his familiarity with structural problems. It should

be noticed, moreover, that the more masterfully an architect handles these essentials of design the less appreciation he receives from the lay critic, for the reason that perfection in such matters as scale, for instance, so rests the eye as to attract no attention and elicit no praise. The trained architectural observer, however, will find much to delight him in his conscious appreciation of these niceties.

To proceed further in a consideration of the principles of architectural design would be inconsistent with the purposes of the present work, no matter how interesting in itself, and a necessarily brief study will now be directed through the evolution of those great historic styles whose present-day manifestations we see around us on every hand.

CHAPTER II

THE EVOLUTION OF ARCHITECTURE

THE GROWTH OF THE GREAT ARCHITECTURAL STYLES.
THE ARCHITECTURE OF EGYPT, OF ASSYRIA, OF GREECE,
OF ROME. BYZANTINE AND ROMANESQUE ARCHITECTURE

IN order to acquire a practical familiarity with the architecture which surrounds us to-day, and to be practically familiar with its forms, it is obviously necessary to acquire some general knowledge of the evolution of architecture through the ages and in the several countries of Europe.

It is customary and, indeed, quite proper, to commence a study of the history of architecture with its beginnings in Egypt, although architectural evolution has left no vestige of actual Egyptian detail in modern buildings.

The recognisable characteristics of architecture manifest themselves in three principal directions: in the *structural* character of the building (column construction, arch construction or otherwise); in its general *mass*, or form (tall and vertical, or low-spreading and horizontal) and in its *detail* (in the kind of architectural mouldings or ornaments peculiar to each type or nationality).

There are, again, three broad divisions in which to consider *types* of buildings: *religious*, *secular public* and *secular private* buildings. It is essential to consider, instinctively, in which class a given building belongs, because much of the confusion which exists in the consideration of architecture arises from vague classification, or none at all. And classification should

always be the basis of comparison, and comparison is the royal road to intelligent and practical comprehension. The importance of these broad divisions, which must come to make themselves felt instinctively, will become increasingly apparent as study progresses.

Commencing with the architecture of Egypt, it will be realised subsequently what a complex architectural fabric was gradually built up upon an essentially simple foundation.

For the purpose of this book the following history of architectural evolution will be presented in the most concise form possible, with the intention of enlarging upon certain phases of it in subsequent chapters.

THE ARCHITECTURE OF EGYPT

The type of Egyptian building which played its part in later architectural evolution was not the secular building, either public or private, but the religious building—in this case, the temple.

The Egyptian dwelling was, for the most part, a very modest affair, and very perishable, both actually and stylistically. Not only are there no examples preserved in the condition of the Roman villas of Pompeii and Herculaneum, but the Egyptian residence appears to have had little if any influence upon the later evolution of the private house. Some idea of its form has been preserved in elaborate contemporary wall-paintings and bas-reliefs, but since its influence on architectural design did not extend beyond the days of the Pharaohs, it is more profitable to consider the religious, or temple, architecture of ancient Egypt.

Essentially, Egyptian architecture was a *stone* architecture, and structurally it was an architecture based on the column and lintel (a lintel being any

horizontal member resting upon two vertical members).

Although the arch was known to the Egyptians, their builders appear to have regarded it as a mean and ignoble substitute for the enormous stones which they used to span the distances between their columns. For the most part, it would seem that the Egyptians gauged the merit of their buildings by the size of the stones which they employed. Although they built many of their greater columns, such as those in the great hall at Karnak, of huge cylindrical drums, they thought highly of monolithic columns, hewn from one piece of stone. Theirs was an architecture of sublime proportions, of massive forms and simple lines.

Their columns were far heavier than those later developed by the Greeks, and the forms of the capitals or heads of the columns, were inspired by such local flora as palm-leaves and lotus flowers.

Egyptian architecture is powerfully illustrative of the influences which social and natural conditions exert upon architectural character. Being essentially a religious country, actually ruled by the priests, the principal form of building was the temple, and being essentially a treeless country, the principal building material was stone. The Egyptians, of course, understood the manufacture and use of bricks, but with their basic passion for building for eternity, their crude bricks doubtless seemed to be perishable, and certainly not so noble as their enormous stone members, so brick played no such part in Egyptian architecture as it later played in the buildings of the Assyrians.

Indicative of the Egyptian architectural ideal of "eternity," there are the rock-cut temples, hewn from stone mountain sides, and the usual tomb, which, when not buried beneath the artificial mountain of a pyramid,

was cut into the solid rock of the Theban Hills. Thus it is to be inferred that the Egyptians preferred permanency even to the impressive majesty of fine architecture. They were content to rest in a hidden chamber far in the heart of the living rock, rather than in an ornate mausoleum.

All Egyptian architectural and monumental remains testify to this predilection—the Sphinx, hewn from the solid rock, the monolithic obelisks, the great rock-cut temple of Rameses II at Abu-Simbel, the colossal statues and massive pylons—all these are characterised by a strength and immobility which have defied the centuries and the waves of destructive invasion which have swept over Egypt.

Yet, for all its qualities of massive form, Egyptian architecture was not sombre, and Egyptian architects and artists evolved many decorative forms from lotus, palm and papyrus which were essentially graceful and delicate. Nor was the architecture of Egypt by any means devoid of colour. The pictorial bas-relief carvings, the inscriptions and decorative details of the temples and tombs were richly, even garishly, painted in many and bright colours. The erosion of sand and time has dimmed these where they have been exposed, but in the shelter of many tombs and rock-hewn sanctuaries the colours are to be found as intense and vivid as though they had but recently come from the brush of the painter.

The transitional step from Egyptian to Greek architecture is generally given as existing in a rock-cut temple at Beni-Hassan, often called the "Proto-Doric Temple," because the form of the columns bears a striking similarity to the Greek Doric column, the first of the great Greek "orders." Of the architectural

legacy of Egypt to Greece, more may be appreciated in connection with the consideration of Greek architecture.

THE ARCHITECTURE OF ASSYRIA

The architecture of ancient Assyria differed quite distinctly from that of Egypt, and its characteristics, like those of Egyptian architecture, were the direct outcome of social and natural conditions.

Secular architecture was more prominent, notably in the magnificent palaces of the kings, and, being a race less religious and less dominated by the priesthood, temples were far less conspicuous. And being a country devoid, for the most part, of building stone as well as timber, but abounding in clay, Assyria naturally developed a *brick* architecture instead of a *stone* architecture. Structurally, since the brick is a small structural unit, the great lintel construction of the Egyptians was not possible, so the arch was used considerably, both in its true form, and in some other forms. Roofing was often accomplished by the use of wood, though there is considerable dispute on this question among archæologists, and several theories maintaining that textiles were largely used.

Of Assyrian buildings only the walls and floors remain, but the area of many of the great rooms could have been spanned only by timbers, on which, perhaps, there was devised a covering of lighter wood, then thatch and clay.

Most versions of the form of Assyrian buildings are conjectural, though it is known with certainty that the palaces and temples were of vast size, and were impressively elevated on a series of great terraces, approached by broad flights of steps. And whatever particulars of Assyrian architecture are conjectural, it is certain

that the Assyrians were the first to realise and develop the possibilities of brick, both structurally and decoratively. Such portions of their important buildings as were conspicuously exposed were faced with glazed bricks of gorgeous and beautiful colours, or with tiles, often forming elaborate and highly decorative representations of legendary deities, monsters and heroes.

Subsequent architecture borrowed little from the Assyrians—certainly that of Greece had nothing in common with it. The Assyrians borrowed but little from Egypt, by reason of the differing characteristics of the two countries, racially and socially, as well as in the nature of building materials available.

Architecturally, however, the Assyrians were, without dispute, the pioneers in demonstrating the possibilities of brick as a building material—a material which, ever since, has been a distinct factor in architectural evolution and expression of other races in other lands.

THE ARCHITECTURE OF GREECE

Most architectural histories are enlivened by the disputes of archæological authorities on questions of origin. Although many of these disputes are of great interest, the present outline sketch of architectural evolution will not allow of such digressions. The study of Greek architecture, however, usually begins with the two great conflicting theories regarding the origin of its form. One contention is that the Greeks borrowed their column and lintel construction, as well as the form of their first Doric column, from Egypt. The other contention is that the Greeks, advancing in skill and ambition, simply translated into stone the forms of their own earlier wooden buildings. There is much to

support both theories. Undoubtedly there is a similarity between early Greek architectural forms and Egyptian, but with no less doubt there is a distinct analogy in the Greek temple to what we may imagine was a similar and primitive Greek building of wood.

For the present it is more important to crystallise a clear impression of what, in the main, constituted Greek architecture, than to inquire into its origin.

An understanding of Greek architecture is the first really important step in acquiring a practical understanding of the architecture of the present day, as well as of many earlier periods. To understand Greek architecture is to understand the real meaning of the several manifestations of the "Classic Revival," and the frequent architectural allusion to the "Classic Ideal."

The importance of Greek architecture in subsequent evolution cannot be over-stated. Greek architecture is, fundamentally, the basis of all modern architecture, in that from it sprang the architecture of Rome, and from that later, the architecture of the Renaissance, which permanently supplanted the Gothic idea.

In Greek architecture, furthermore, it is possible, for the first time, to perceive the origin of a multitude of architectural forms with which we are daily surrounded to-day—mouldings, ornamented motifs and the immortal "Greek orders" themselves—forms which have come down to the present day, while those of ancient Egypt and Assyria did not live beyond the confines of their lands, or after the downfall of their empires.

The Greeks evolved the "Classic Ideal" in architecture, an ideal of such purity and nobility and perfection that it has constituted the standard through the ages,



AN EARLY EXAMPLE OF THE GREEK DORIC TEMPLE (UNFINISHED)
The columns here are heavy and spaced closely together. The flutings of the columns, as well as mouldings of pediment and cornice, would have been carved "in place," had the work been completed
(Temple at Segesta, Sicily)



By permission of Braun & Co., New York and Paris

GREEK CARYATID FIGURES, A DETAIL OF AN IONIC TEMPLE
Classic architecture, with the development of the Ionic order, began to take forms of permanent and eternal beauty
(The Caryatid Porch of the Erechtheum, Athens)



THE CORINTHIAN ORDER

A Roman temple built at Athens by a Greek architect
(Temple of the Olympian Zeus, also called Jupiter Stator, Athens)



By permission of Braun & Co., New York and Paris

A TYPICAL EXAMPLE OF ROMAN ARCHITECTURE

The use of column and arch, the employment of sculpture and inscription as an adjunct to architecture—the entire composition as a whole is essentially Roman

(The Arch of Constantine, Rome)

and is to-day the fundamental of architectural design.

Greek architecture, elementally, is a column-and-lintel architecture, highly developed as time went on from the severest Doric orders to the most ornate Corinthian orders.

The three orders, Doric, Ionic and Corinthian, are readily recognisable and easily to be distinguished (see "Architectural Terminology, Illustrated").

Regardless of the forms assumed by Greek architectural elements in later times, it is important to remember their origin. Greek forms reappeared in the period of the Renaissance, and again in the period of the Classic Revival in the Eighteenth Century, and the same forms constitute to-day the most important part of our architectural details. To possess a clear vision of Greek forms is to simplify the study of architecture and to pave the way for a subsequent recognition of other forms and other architectural ideals which came into being during later periods and in other lands.

The most notable type of Greek building was the temple, although the private dwellings of wealthy individuals claimed far more of the attention of architects and sculptors than was the case in Egypt.

Greek architecture was essentially an architecture of stone, and its character, subsequently to the Doric style, was marked by the refined application of graceful carving and co-relation of monumental statuary.

Much of the eternal excellence of Greek architecture lies in the perfection of its proportions, as well as in the refinement of its detail, which, to date, have not been improved upon.

It is important to remember that Greek architecture forms the inspiration and often the direct source of the

36 THE PRACTICAL BOOK OF ARCHITECTURE

design of virtually all the large public buildings of to-day. No style has been found better suited for the expression of dignity, stability and permanent beauty of form. The debt of architecture to the genius of ancient Greece can never be discharged, and this becomes increasingly apparent as study proceeds.

Greek temple plans were of several kinds, but the differentiation of these comes into the province of a far more detailed consideration than it is intended to present. Nor can this kind of knowledge of Greek architecture be said to have a direct bearing upon its more superficial aspects. It is more important, in a general survey, to recognise thoroughly the importance and meaning of the great and immortal "Classic Ideal"—the purity of form and the perfection of proportion which were the essentials of Greek architecture. And these basic essentials found their highest expression in the Greek temple.

The most important feature of the Greek private residence was its planning about an open central court, called an *atrium*—a type of plan still adhered to in warm countries, and encountered later in but slightly variant forms, notably the Spanish *patio*.

THE ARCHITECTURE OF ROME

The architects of Rome took Greek architecture and elaborated it, introducing in addition, and highly developing, the use of the arch.

The old Greek Doric order did not appeal to the sophisticated Romans, to whom it doubtless appeared too severe and too primitive. Their corresponding form was the Roman Doric column, also called Tuscan (see "Architectural Terminology, Illustrated"). They

made but little use of the Ionic, but appropriated and highly embellished the Corinthian.

Most characteristic of the Roman development of architecture was the combined use of column and arch, later a favourite theme for the architects of the Italian Renaissance.

Roman carving and ornamentation was rarely so refined or pure as similar work of the Greeks, but was usually more decorative. The Romans were lovers of inscriptions, and, in their architecture, began to pay more attention to secular buildings, both public and private, than had previously been accorded them. Public works, such as aqueducts and bridges, became architectural monuments, as well as theatres, baths, and triumphal arches, while the private residences, or villas, became luxurious and elaborate to a degree, and were filled with paintings, statuary, bronzes and other works of art, including Greek antiquities.

Architecture was fast coming into a closer relationship with the people, ceasing to occupy its earlier position of exclusive consecration to the gods.

There were Roman temples, to be sure, but there were an even greater number of Roman secular buildings which have played as important a part in the subsequent development of architecture as the earlier monuments of Greece.

It must be remembered, however, that the architecture of Greece preceded and inspired the architecture of Rome, so that virtually all Roman forms were, to a greater or less degree, derivations from Greek forms. It will be important to remember, later, that the inspiration of the architecture of the Italian Renaissance came from Roman, not Grecian, remains, and that the Romans secularised the temple architecture of Greece.

BYZANTINE AND ROMANESQUE ARCHITECTURE

Before the final downfall and dismemberment of the Roman Empire in the year 455 of the Christian Era, with all the elaborate civilisation it had developed, there grew up two types of church architecture which struggled on through the Dark Ages, sustained by the warmth of religious enthusiasm, and, in their way, keeping the lamp of architecture burning until times more propitious for its further development.

These two styles are known as Byzantine and Romanesque—the first of which, reaching a high development in itself, led to nothing else, and the second of which, by reason of its vital structural merits, grew directly into the great Gothic style, which was to completely fill the architectural stage until the coming of the Renaissance in Italy in the year 1400.

At this point in architectural history it may be illuminating to tabulate a few dates for reference in following the course of architectural development from the fall of Rome to the end of the Renaissance in Italy:

CHRONOLOGY

End of the Roman Empire, 455 A.D.

Early Christian Period, from Emperor Constantine of Byzantium to Gregory I, Bishop of Rome, 300–604 A.D.

In the Byzantine Empire (the eastern division of the Roman Empire), Emperor Constantine changed the name of Byzantium to Constantinople (“City of Constantine”), and adopted Christianity in 338 A.D.

In 527 A.D. the Byzantine Emperor Justinian began a twenty-year war, which finally drove the Goths and Huns from Italy, and strengthened the Eastern Empire of Rome. In 751 A.D. Rome became independent, in the form of the first Papal States. At this time the Italian



THE MOST IMPORTANT MONUMENT OF BYZANTINE ARCHITECTURE
The use of arches and short columns is essentially Byzantine, as also the rich decorations in fresco and mosaic
(The Cathedral of St. Mark, Venice)



DETAIL OF A ROMANESQUE ARCADE
Architecture enriched with a Byzantine treatment of mosaic. The carving and the diversity of the columns also show marked Byzantine characteristics
(Cloister arches of St. Paul-Beyond-the-Walls, Rome)



CHARACTERISTIC EXAMPLES OF BYZANTINE COLUMNS, CAPITALS AND DECORATIVE CARVING

Lombards conquered the greater part of the Byzantine Empire.

The Byzantine Empire finally fell at the hands of Mohammed II, and Constantinople became the Moslem capital in 1453, half a century after the beginning of the period of the Renaissance in Italy.

From 900 to 1200 Italy was to some extent the battle-field of ambitious European nations, suffering many invasions and constant unrest.

From 1200 to 1400 such Italian cities as Venice, Genoa, and Florence grew steadily in prosperity and power, mostly through commerce.

There was no national Italian government at this time, the balance of power being diplomatically adjusted by five united parts: the Duchy of Milan, the two nominal "republics" of Venice, the Papal States (centred at Rome) and the Kingdom of Naples.

The dates of the great periods of the Italian Renaissance are given as follows:

Early Renaissance, Florentine....	1400-1600
Milanese.....	1400-1600
Venetian.....	1490-1600
Roman.....	1444-1643
High Renaissance	1500-1540
Late Renaissance	1540-1643

The years and periods covered by the foregoing dates, from the fall of Rome to the close of the Italian Renaissance, saw greater developments in architecture than any subsequent span of time. Great as were these developments, however, it is necessary here to deal with them in the briefest possible manner, pointing out such salient points as will later prove an aid in distinguishing the architectural derivations of to-day.

Byzantine and Romanesque architecture flourished at about the same time, and were preceded by what is known as "Early Christian" architecture in Rome. As the Christians, at the beginning of the Christian Era, were neither rich nor powerful, their architectural efforts were, of necessity, restricted.

It was at this time that the idea of a "temple," or abode of deity, gave place to the idea of a "church," or place of worship for the devout. The temple, while a shrine, had been regarded more as a divine abode. The people came to offer prayer to their god in the temple. In the church, the devout assembled to make prayer, and an Invisible God came to them.

Gradually the architectural efforts of the early Christians began to assume certain definite forms: "Romanesque" in Italy proper, or the "Western Empire of Rome," and "Byzantine" in Byzantium (Constantinople), the "Eastern Empire of Rome."

Byzantine architecture was at its height under the Emperor Constantine, when he removed the capital from Rome to Constantinople, and the term covers not only the buildings actually erected in the Byzantine Empire at this time, but several important contemporary buildings in Italy.

Most notable of all Byzantine architectural monuments is the Church of St. Mark, in Venice. It was largely built from 1061-1071 A.D., with additions of columns and marble mosaics, between 1100-1350.

The second great monument of Byzantine architecture is the Church of Ste. Sophia, in Constantinople, so long now a Mohammedan Mosque. Ste. Sophia is of earlier date than St. Mark, having been built by the Byzantine Emperor Justinian in 532-537 A.D.

Both buildings, however, illustrate the most salient characteristics of Byzantine architecture.

The principal structural difference between Byzantine and Romanesque architecture is that the first developed the dome, while the second developed the vault. Byzantine architecture stopped at the dome—Romanesque architecture grew into the elaborate vaulting systems of the Gothic style.

The architectural "orders" of the Romans gave place to different forms in works of the Byzantine builders. Byzantine buildings were mostly of brick, embellished with mosaic, and depending for large effect on the dome; for detailed effect on *colour*. Arches were used structurally, springing from a different sort of column than those of the Greeks or Romans. The Byzantine column was usually short, and often placed in pairs, and the capitals were basket-shaped, effecting a transition from the arch to the cylindrical shaft of the column. These capitals were intricately carved, in a richly decorative manner, with conventional foliation or grotesque heads and animal forms.

In place of the mouldings and carvings of the Classic architects, the exteriors of Byzantine churches were diversified by horizontal bands of vari-coloured brick, as well as by the interest afforded by successive recessed arches.

Statuary formed no feature of this architecture, since the early Christians allowed nothing so reminiscent of pagan religions and pagan deities, or "idols" to be a part of their creed.

The art of mosaic work, both in coloured marbles and mosaic glass, reached its height in Byzantine architecture.

Church plans were usually in the form of a Greek

cross, with the dome covering the central part. In comparison with Romanesque and, later, Gothic church plans, those of the Byzantine churches were square and compact.

The dome, essentially an Eastern, or Asiatic form, has naturally come to be regarded as characteristic of Saracenic or Moorish architecture, with which, indeed, Byzantine has much in common.

Romanesque architecture was practised not only in churches erected in Italy, but spread through France and Germany as well. In certain details it was influenced to a considerable extent by Byzantine feeling, while structurally it was essentially different.

Instead of the dome construction of the Byzantine architects, the Romanesque church builders addressed all their efforts to the development of the vault as a method of roofing—their efforts culminating in the Gothic style of the Thirteenth Century.

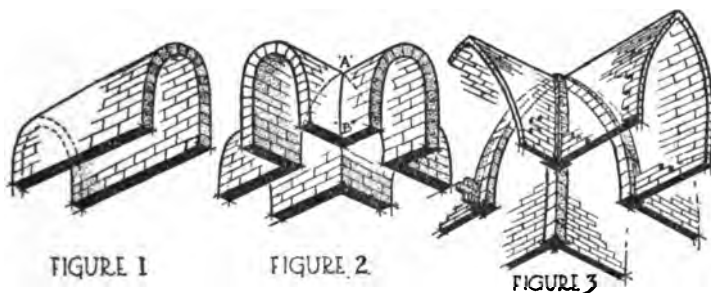
The Romanesque church plan assumed much of the character of the later church and cathedral plans, consisting of a long central nave, flanked by narrower side-aisles, the nave terminating in the sanctuary and altar—the apse of the later cathedral plan. In order to support the heavy tile roof of the Romanesque church, it was necessary to develop masonry vaulting to a degree never before attempted, and “rib-vaulting,” the basis of Gothic architecture, was evolved.

By way of definition, a plain vault, or “barrel” vault, is nothing more than a continuous arch—a roofing in the form of an inverted half-cylinder, supporting its own weight, as well as any superincumbent weight, on the principle of the arch (Fig. 1).

When two plain vaults intersect (Fig. 2), their

self-sustaining or supporting power is not impaired, and a new line is formed by the intersection ("AB," Fig. 2). This intersection is known as the "groin" of the vault, and the building of intersecting vaults was practised extensively by the Romans.

The later Romanesque builders, however, went a step further. They discovered that the only structurally essential members of the intersecting vaults were the groins, or stones forming the intersection. These, they found, would stand alone, independently



BARREL VAULT · GROIN VAULT · · · SINGLE RIB VAULT
of the rest of the vault, so that lighter stones or brick might be used to fill in.

It is easy to see how this discovery led to the development of "rib-vaulting" (Fig. 3), in which the bones of the construction, *so to speak*, were the groins of intersecting vaults—the vaults themselves becoming of secondary significance and of importance chiefly to effect a symmetrical and "finished" interior.

On this evolution of Romanesque architecture, the discovery of the structural sufficiency of vaulting ribs, rests the whole principle of Gothic architecture, for the intersection of vaults varying in height naturally brought about the discovery of the pointed arch.

About these two structural facts the genius of

44 THE PRACTICAL BOOK OF ARCHITECTURE

Gothic architecture wove an intricate fantasy of forms and details, differing one from another in the same building, and with varying interpretation in the several countries of Europe where Gothic architecture took root.

SUMMARY

EGYPTIAN ARCHITECTURE

Types of Building: Temples, Pyramid tombs, rock-cut tombs and rock-cut temples. Private dwellings of perishable and impermanent sort.

Construction: Column and lintel, columns either of one colossal stone, or built of drums or blocks.

Materials: Stone; brick was known, but little used.

Detail: Carved.—In low incised relief, usually highly coloured.

Surface decoration.—Stucco was often used, as it formed a satisfactory ground for painting.

Motifs.—Conventionalised renderings of Deities, scenes from royal and private life, hieroglyphic inscriptions and decorative forms based chiefly on the lotus and the papyrus.

ASSYRIAN ARCHITECTURE

Types of Building: Temples and palaces.

Construction: Brick-built walls, occasional use of the arch, though seldom as a structural aid. Methods of roofing buildings largely conjectural.

Materials: Brick and tile.

Detail: Carved detail.—Use of carved bas relief in isolated instances. Stone was scarce, and used sparingly.

Surface decoration.—The Assyrians were the first to demonstrate the great decorative possibilities of glazed tiles and glazed brick.

Motifs.—Conventionalised renderings of Deities, scenes from decorative forms.

GREEK ARCHITECTURE

Types of Building: Temples, open-air theatres, mausoleums and private residences.

Construction: Column and lintel. Roofs usually of slabs of stone. Column and lintel construction carried to the point of perfection.

CHAPTER III

THE EVOLUTION OF ARCHITECTURE

(Continued)

GOTHIC ARCHITECTURE AND RENAISSANCE ARCHITECTURE.
A STUDY OF THE DIFFERING EXPRESSIONS OF THESE TWO
GREAT STYLES IN ITALY, FRANCE, SPAIN, BELGIUM,
ENGLAND, AND GERMANY

TO dismiss in a few paragraphs a subject so extensive, so diversified, so elaborate and so rich in interest, is at once a task and a necessity. It is to be said, however, that many of the "literary," or symbolic, qualities of Gothic architecture which must be passed over in this chapter will find opportunity for mention in the fifth chapter.

Gothic architecture is remarkable in that it is dually a structural architecture and a decorative architecture, with both of these essential aspects existent in equal proportions. The most important single thing to remember in considering Gothic architecture is that it may be closely likened to an organic growth. Its development was as natural and as consistent as the growth of a tree, rising up, putting forth branches, and these, in turn, putting forth leaves.

In a few paragraphs, let us endeavour to summarise the evolution of the Gothic church or cathedral, from its beginning in the vaulting achievements of the late Romanesque builders.

The typical plan took the form of a great cross, with three short arms and one long arm. The entrance was at the end of the long arm, and gave directly into the great central nave, flanked by side-aisles. The arms of the cross formed the transept, and a great

tower rose at its intersection with the nave, or there were twin towers rising above the entrance front. The remaining arm of the cross was the apse, or sanctuary. There were other types of plan, but the cross was the most usual.

Architecturally, the plan was carried out with an intricate diversity of which only Gothic architecture could be capable. The walls of the nave, above the lower side-aisles, were carried on columns and pointed arches; the side-aisles, also arched and vaulted, were supported, outside, by buttresses to take the lateral thrust. Above these, on the exterior, rose flying buttresses to take the thrust of the nave arches, and everywhere there was opportunity for pinnacles, turrets, grotesques, gargoyles, niches with images of saints, and all the profusion of Gothic detail. Within, the building was lofty and mysterious, richly and dimly lighted by tall, pointed windows fitted with stained glass—perhaps a magnificent rose window at the near end of the nave. Everywhere, too, carved niches and holy images, intricate carving, dull colour in polychrome or textiles.

Gothic architecture is often nicknamed “perpendicular architecture,” which is reasonably descriptive, inasmuch as the horizontal entablature, with its frieze and cornice, forms no part of the Gothic idea, wherein all members mount ever upward, climbing one upon the other in one magnificent expression of altitude. Columns, arches, vaults, windows, pinnacles, buttresses, towers—all point upward—even the details of tracery and the niches for images point upward.

It is this sense of upward motion, reaching often to the height of the sublime, which has made Gothic architecture essentially the architecture of the church, ren-



Photograph by Levy

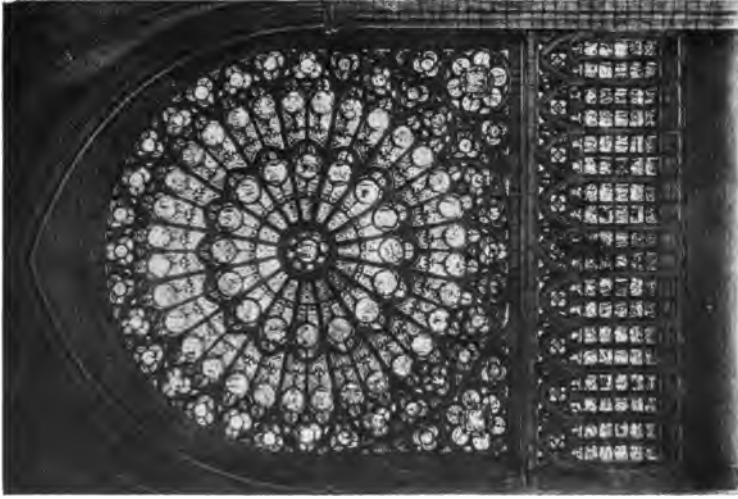
A TYPICAL GOTHIC CATHEDRAL

This side view shows the Gothic system of buttress and flying buttress, as well as the fêche, or small spire, at the intersection of nave and transept (Cathedral of Nôtre Dame, Paris)

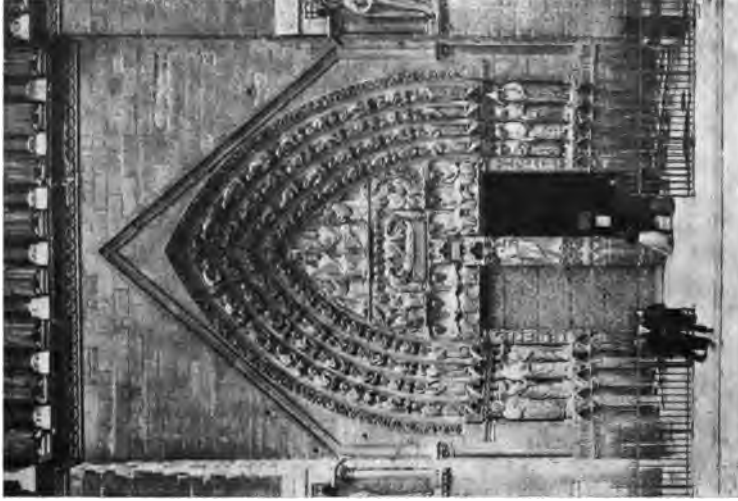


A TYPICAL GOTHIC DETAIL

The "upward motion" of the composition is characteristic. The flame-like leaf carvings are in the "flamboyant" vein, and there is also to be seen the typical Gothic introduction of grotesque heads and animal forms



A TYPICAL GOTHIC "ROSE WINDOW"
(Details from the Cathedral of Notre Dame, Paris)



Photograph by Neudelein & Cie
**A TYPICAL GOTHIC RECESSED CHURCH DOOR-
WAY WITH IMAGES**
(Cathedral of Notre Dame, Paris)

dering, as it does, a remarkable expression of spiritual nobility in architectural terms. This aspect of Gothic architecture will be dealt with in another chapter.

Some details of Gothic architecture were the natural outgrowth of its structural development, others were the outgrowth of sheer fantasy and sculptural imagination on the part of the builders. Structurally, the springing of many arches from one point of support developed new forms for columns and capitals—the shaft often a group of clustered columns, the capital designed for each varying condition, to accommodate the arches which were to spring from it. Tall, pointed windows were the obvious complement of tall, pointed arches.

Any arch construction must physically provide for the "thrust" of the arch, which takes the form of an outward and downward force, composed of the forces of *weight* in the materials and *thrust* from the arch itself. Arches in sequence naturally neutralise their respective thrusts, so that there is only superincumbent weight to be reckoned with, but the arch which abuts against a wall necessarily exerts a pressure against that wall which would tend to force it outward. To meet this force, the Gothic builders devised the exterior buttress, heavily built of stone, and slanting outward toward the ground, in exactly the same manner and for the same reason that one would brace a heavy piece of timber against a barn which stood in danger of collapsing.

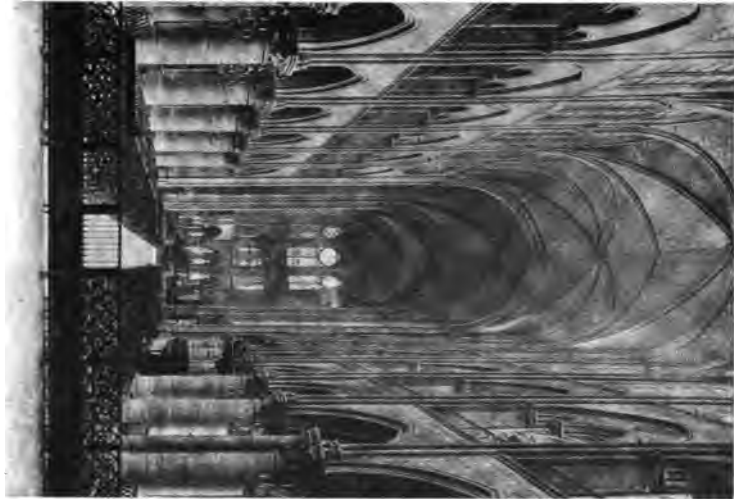
The wall buttresses took care of the lateral thrusts of the arches vaulting the side aisles, but the higher arches, vaulting the central nave, called for additional buttresses. These, resting on the lower buttresses and giving them additional stability, were in turn weighted

down with pinnacles of stone. To save unnecessary weight in themselves, these "flying buttresses" were simply skeleton braces of masonry, artfully devised to exactly counteract, by their weight and direction, the thrusts of the lateral arches of the nave within.

Gothic fantasy evolved the intricate tracery, the elaborate canopies of stone, seemingly light as textile, and, most characteristic and most fantastic of all, Gothic architecture evolved the grotesque. The grotesque is not to be confused with the gargoyle, or taken as synonymous with it. The gargoyles were all grotesques, but grotesques were not all gargoyles. Strictly speaking, the gargoyle was a stone water-spout, projecting some distance beyond the wall of the edifice, and designed to drain the roofs in such a manner that the water would not run down the sides of the masonry and into the joints.

Grotesques in Gothic architecture are legion, and are generally taken as one of its most quaint and unexpected charms. Human forms and faces, animals, birds and reptiles, as well as purely imaginary demons, dragons and griffons (these last three called "chimeras") were handled in grotesque technique and introduced in countless ways. Entangled in the stone traceries, or in the intricate carvings of a capital, strange faces leered forth, sometimes sinister, sometimes jovial. Contorted animals writhed in stone, or, seemingly escaped from the carved details, peered strangely over the parapets, far above the mediæval city which lay below the cathedral.

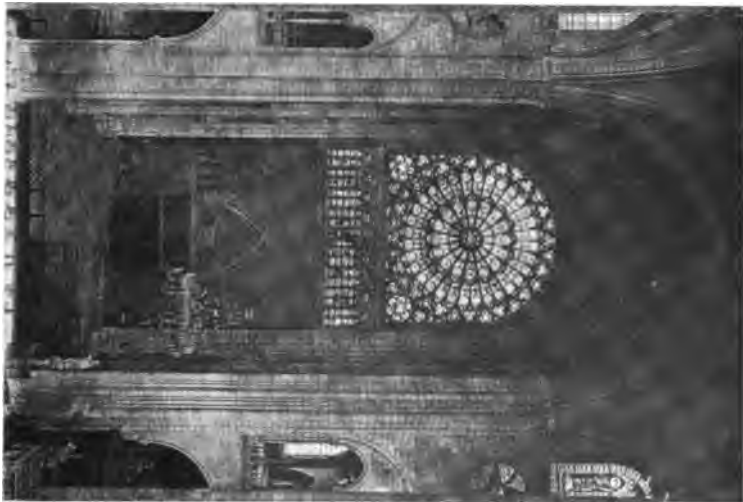
Some of the most notable, as well as the most weird and bizarre, grotesques of Gothic architecture—gargoyles, as well as animals and chimeras in stone—



Photographs by Neudehn & Cie

View looking towards the apse, and showing the Gothic system of rib-vaulting, as well as the "perpendicularist" character of the style

(Interior of the Cathedral of Notre Dame, Paris)



THE TYPICAL GOTHIC CHURCH AND CATHEDRAL INTERIOR
 Rose window over a transept entrance. At left and right ribs were sprung from one point



Photograph by Neurdein & Cie

"Chimeras," or grotesques, carved in the stones of the parapet



Photograph by Neurdein & Cie

Grotesque gargoyles, or water-spouts, carved in stone

FANTASIES OF GOTHIC ARCHITECTURE
(Details from the Cathedral of Nôtre Dame, Paris)

disport themselves on the parapets of the Cathedral of Nôtre Dame de Paris—creatures far removed from any conceivable religious concept, unless they were devised to depict evil spirits, exorcised by the priests in the church below, and condemned to remain transfixed in stone forever, high up on the parapets of the roof, in all winds and weathers. Indeed creatures of a mediæval nightmare, the chimeras of the Nôtre Dame epitomise fully that important phase of Gothic architecture which is fantastic, unknowable, unexplainable and apparently more in the realm of demonology than theology.

A quotation from Fletcher's "History of Architecture" might be regarded as an interesting and picturesque conclusion: "In the thirteenth, fourteenth and fifteenth centuries the Gothic masons carried to the utmost the use of stone as a building material, heaping it up in towers that rose on open archways through the lofty roofs of the naves and transepts, and tapered away in shell-like spires embroidered in all the fretwork of lace-like tracery. They hung it aloft in ponderous vaults treated by art to seem the gossamer web of nature, scarce capable of bearing the stalactite pendants in which the fancy of the fifteenth century found its expression, and eventually pushing their practice to the furthest boundaries, they cut the granular stone to the thinnest of fibrous wood or iron, and revelled in tricks of construction and marvels of workmanship."

It remains, before considering the architecture of the Renaissance, in Italy and more Northern Europe, to mention paragraphically the more important types of Gothic architecture which became characteristic of England, France, Germany, Belgium, Holland, Italy and Spain.

In England the fullest development of Gothic architecture was preceded by a style generally called Norman or Norman Gothic. Strictly speaking, this Norman architecture, brought to England by the Norman conquerors, was an offshoot of Byzantine and Romanesque, especially in its decorative details, and is not accepted as a Gothic style by some authorities.

In mass the Norman churches were heavy and splendidly expressive of stability and strength, often as much like fortresses as places of worship. The square tower, without a spire, was characteristic, arches were round, not pointed, and there was none of the profusion of tracery and carving of later English Gothic. One of the most familiar Norman cathedrals of England is Durham, rising majestically up above the river. There are many earlier Norman buildings in England, many castles and monasteries, but it is safe to regard the Cathedral of Durham as typical of the style.

The greatest difficulty in attempting a brief survey of Gothic churches and cathedrals is met with in the fact that few, by reason of many and involved changes and additions over periods of years, reveal the plan or intention of the original builders, or any phase of Gothic architecture characteristic of any one time. Generalities, therefore, are necessary in the present survey.

Following the Norman churches of England came the style known as "Early English" in which the pointed arch and fully developed Gothic rib-vaulting became a permanent part of the structural character (Thirteenth Century). The next development was "Decorated Gothic" (Fourteenth Century) in which the system of rib-vaulting became more elaborate and in which decorative detail began to play a greater part.

Of the "decorated" style, Westminster Abbey, in London, is regarded as a good example, disregarding its earlier and later portions. The Fifteenth Century development of the Gothic architecture in England is generally called the "Perpendicular" style.

Among vaulting developments of this phase of English Gothic architecture, a notable one was the "fan-vaulting" in which a great number of vault-ribs, springing upward and outward from each column, like the ribs of a fan, met similar groups of diverging ribs from other columns, forming a vault of remarkable richness and diversity. The builders also discovered that pendent masses of stone could be hung from the centres of these vaults, and, carefully jointed to stay in place, could be carved in the form of delicate drop-ornaments. This, perhaps, may be reckoned the highest and most brilliant development of stonemasonry the world has ever seen. Fan-vaulting is found only in English buildings, while the carved pendent from the centres of vaults appears in some French Gothic structures.

A distinctly English Gothic form, and a conspicuous characteristic of the secular and domestic architecture of the Tudor period, was the flat-pointed arch, usually called the "Tudor Arch," and by draughtsmen, the "five-centred arch."

Certain other mediæval English architectural developments are of importance in anticipation of later study of English country houses and modern derivations.

Previously to the Tudor period important dwellings were, for the most part, in the nature of castles, built with thought of siege and defense in view of the unsettled conditions of government and society. While the English country house first began to assume its

peculiarly charming form in Elizabethan times, in the dawn of the English Renaissance, it had its inception in Tudor times.

The great common hall, where the lord and his retainers ate and drank, was the most important feature of the earlier mediæval English castles and moated manor-houses, but these gradually gave way to the desire for greater privacy. The "great hall," a survival of the feudal system, remained for some time a part of the English country house, even after its function as the assembly room and eating room of the family and retainers had ceased. These large rooms were usually roofed by means of various forms of sturdy oak trusses, often carved; the walls were hung with tapestries, trophies of the chase and armour; the floors were strewn with rushes, and the head of the house sat at meals on a raised dais at one end, overlooking all those of humbler estate who sat below.

When the increasing power of the king made family wars among the barons of less frequent occurrence, and the invention of gun-powder made the moat and other defenses of most fortified manors practically useless, methods of planning and construction changed. In plan, the Sixteenth Century, or Tudor house was built about a square court, often in the form of several semi-detached buildings. The entrance to the court was through a massive, tunnel-like arched drive-way, usually under a low tower or gate house. The manor Compton Wynyates is typical of this pre-Elizabethan form of English country house.

The architectural style called "Tudor" is to be applied to buildings under the reigns of Henry VII, Henry VIII, Edward VI, and Mary. It was a transitional period, in which Gothic habits of design were

being gradually superseded by innovations of Italian Renaissance origin. Following the Tudor style came the Elizabethan and Jacobean styles, both to be properly considered under their designation of "English Renaissance," which eventually developed into the Anglo-Classic, or Later Renaissance of the Eighteenth Century.

The production of glass in marketable quantities caused leaded windows to take the place of unglazed, fortress-like loopholes, and brick and "half-timber" construction became popular.

"Half-timber" construction consists of nothing more elaborate than the actual timber frame-work of the building left exposed to view, and the spaces between the timbers filled, or "nogged," with brick-work. The brick-work was sometimes covered over with stucco, and sometimes left uncovered, in which case the bricks were often arranged in patterns suggested by the shapes of the spaces filled. The timbers were heavy and broad, and their natural structural disposition, with corner braces, possessed a great deal of decorative interest, unconsciously created in the first half-timber buildings, and consciously elaborated and developed in later examples. Nearly all city houses were of this type, the best examples remaining to-day in Chester, a few in London and in certain isolated buildings such as the Harvard House at Stratford-on-Avon. Often some of the exposed timbers were elaborately carved, as well as the verge-boards of the eaves.

Another conspicuously important English Gothic development, and one which has served as the inspiration for much modern work, was the Collegiate or Scholastic Gothic architecture of the Tudor period. This was distinctly different in its character from

ecclesiastical Gothic architecture, in spite of many points of detail in common.

✓ The more salient features of the English Collegiate Gothic style are the octagonal tower (usually in pairs), the "Tudor" or flat-pointed arch, the pinnacles, battlements, niches and tracery parapets. The octagonal towers were usually terminated with battlements or with a lead turret. The detail, for the most part, was fine in scale, and applied with considerable restraint and a remarkable sense for decorative effect. The "Collegiate Gothic" of England should really be regarded as a Tudor style, by reason of many elements of Early Renaissance design which appeared in it. It is to be regarded as a style excelled by no other for the architectural expression of a school or a college. ↙

↘ While the ecclesiastical, domestic and collegiate types of English Gothic architecture had much in common in many matters of detail, each type is distinct in itself, as well as distinctly English.

↘ In France the Gothic expression in architecture adhered to the main characteristics of the style, and the French were the builders of many of the most splendid Gothic churches and cathedrals in existence. Chartres, Rheims, Amiens, Nôtre Dame and Sainte Chapelle in Paris—these are names synonymous with the finest achievements of Gothic architecture. Even more frequently than in examples of English Gothic, the French Gothic ran to spires, pinnacles and tracery, and in the treatment of Gothic detail developed a distinctive style called "flamboyant," from the flame-like "motion" of the ever-mounting crockets and foliation. Another feature peculiar to the French Gothic churches and cathedrals, as well as the Belgian, is the *flèche*, a finely



Photograph by Levy



Photograph by Levy

DETAILS OF A FRENCH BUILDING OF A "TRANSITIONAL CHARACTER"
A study may be made here of the fusion of such Renaissance forms as Corinthian pilasters and balustrades, with earlier Gothic forms
in mouldings and buttresses
('La Paquette,' Tours)



Photograph by Levy

SECULAR GOTHIC ARCHITECTURE IN FRANCE
A doorway designed in the French "flamboyant" type of Gothic
—the iron-studded door characteristic of medieval building
(Château de Langeais)



Photograph by Levy

SECULAR GOTHIC ARCHITECTURE IN FRANCE
The secular use of the Gothic style is illustrated in this domestic
courtyard
(Maison de Tristan l'Hermite, Tours)

tapered spire constructed of timber with intricately elaborate lead covering. The *flèche* was usually placed over the intersection of nave and transept, and was not visible from a close view of the entrance front.

Gothic architecture in France has been divided into three kinds, roughly assignable, respectively to the Thirteenth, Fourteenth and Fifteenth Centuries, and designated *Gothique*, *Rayonnant* ("radiating," from the wheel-spoke disposition of the ribs in the great rose windows) and *Flamboyant* (flame-like).

There are many exceptionally fine Gothic secular buildings in France, notably the "House of Jacques Cœur" in Bourges, and the Palais de Justice, in Rouen. Houses of half-timber construction were also characteristic of the period, as in England, and a few châteaux, such as the Châteaux de Blois and Langeais, date from Gothic times.

When the Renaissance first began to affect French architecture, there resulted a mingling of forms which would be confusing if it were not so obvious. The French retained many Gothic forms in their Renaissance buildings longer than any other nation, so that many transitional buildings, such as "La Psalette" in Tours, will be found to frankly mingle Classic pilasters, Italian balustrades, and other Renaissance details with buttresses, flamboyant crockets, grotesques, gargoyles, Gothic window mouldings, and other forms essentially Gothic. In many of these French "transitional" buildings it would be difficult to say whether the spirit of Gothic or Renaissance architecture predominates. Furthermore, at Blois, and in the cases of many of the other great châteaux, subsequent additions were made throughout the Renaissance period, and some of these additions have been of such extent and impor-

tance that the buildings have been architecturally classed as "Renaissance" rather than "Gothic."

Belgium and Holland, collectively the "Netherlands," lying between France and Germany, naturally absorbed many architectural traits from both, besides developing much that was characteristically Flemish.

The Gothic architecture of Belgium was more closely akin to that of France; Holland Gothic to that of Germany.

Before the devastating invasion of Belgium in the War of 1914, Louvain, Ypres, Malines, and many other towns and cities, were rich in Gothic buildings of exceptional charm and interest.

Belgian Gothic architecture was developed, for the most part, along lines of delicate finesse and detail. There was a tendency, also, toward distinctly picturesque masses and unusual compositions, as in the clock tower of the Town Hall of Bruges.

As a study in perpendicular "motion" in Gothic architecture, and mounting buttresses, the tower of the church at Malines was a beautiful example. This church followed the French type in that it had a *flèche* at the intersection of nave and transept.

Both Belgium and Holland developed secular Gothic architecture to a high degree in town halls, trade halls, guild halls and private city houses. These were characterised by qualities incomparably picturesque—quaint and interesting in mass and marvelously intricate in the details of their carving.

In Germany, Gothic architecture was a borrowed style, but was developed to a high degree of perfection and nobility in such cathedrals as Cologne, Ratisbon,



Photograph by Th. van den Heuvel

GOTHIC ARCHITECTURE IN BELGIUM
A belfry typical of the picturesque variations in
"Low Country" Gothic buildings
(The Town Hall, Bruges)



Photograph by Neurdein & Cie

GOTHIC ARCHITECTURE IN BELGIUM
A delicate yet expressive piece of Gothic design—remarkable for its "perpen-
dicular" emphasis
(The Church at Malines—destroyed in the War of 1914)



Photograph, Hauser y Menet

GOTHIC ARCHITECTURE IN SPAIN

This tower, seen through the picturesque Calle de Santa Isabel, is characteristic of the decorative nature of Spanish Gothic

(The Cathedral of Toledo)



THE COUNTER-INFLUENCE IN SPAIN

Important Moorish buildings in Spain profoundly influenced the Spanish renderings, not only of Gothic, but of Renaissance architecture

(Puerta del Sol, Toledo)

Frankfurt, Strassburg, Freiburg, Ulm and Regensburg. The Gothic style was not indigenous in Germany, but in spite of the fact that borrowed architectural styles do not often develop much individuality, the German builders attained many architectural masterpieces in this French style. Their contribution in the way of departure from precedent was the development of the Gothic style in brick. As in Belgium and Holland, Gothic architecture in Germany was distinguished by its picturesque secular buildings in brick, stone, half-timber and all these materials combined.

In Spain, as might be supposed, the expression of the Gothic style was quite different from its expression in other parts of Europe. Two reasons for this difference might be cited, out of many. Spanish builders, by reason of the comparative isolation of Spain behind the barrier of the Pyrennees, had little opportunity to study or observe the great Gothic edifices of France, which so dominantly influenced Gothic developments in England, the Netherlands and Germany. There was, too, the ever-present influence of the Moors, to which may be ascribed the Spanish fancy for surface decoration, intricate ornamentation, and ornamentation without reference to construction or constructive lines.

Moorish influence was most pronounced in the entire southern portion of Spain, notably in Toledo, and, even after Christian supremacy was established, many Moorish workmen were employed in the building of churches, by reason of their great skill and ability.

The greatest Gothic monument of Spain is generally conceded to be the Cathedral of Burgos, in the northern part of Spain, though the Cathedral of Toledo is not only a remarkably fine example in itself, but dis-

tinctly characteristic of the more peculiar of the Spanish Gothic traits.

✓ The most conspicuous difference in Spanish Gothic from the essentially perpendicular Gothic of other European countries lies in the frequent introduction of horizontal lines, formed by bold projections, casting marked horizontal shadows, or by traceried galleries or ornamental courses. This introduction of the horizontal is apparent in the tower of the Toledo cathedral.

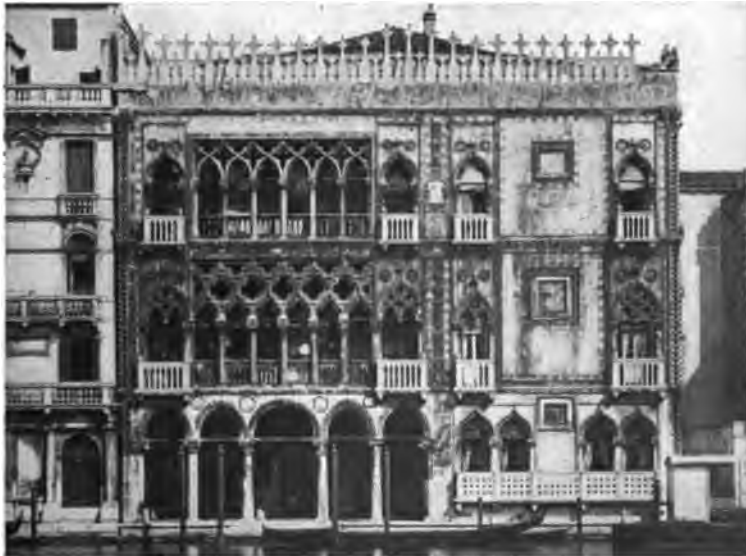
As in France, the period in Spanish architecture representing the transition from Gothic to Renaissance forms produced many buildings of the most peculiar architectural interest—the two styles rendered additionally picturesque by the subtle infusion of Moorish feeling and much that was purely Spanish.

In Italy a full development of the Gothic style was checked by certain of those influences and conditions which so potently mould the course of architecture. Technically, the ability and ingenuity of Italian architects and artisans was more than equal to the task of mastering the intricacies of Gothic construction and design, but on Italian soil there was always the great, overshadowing, ever-dominant Classic influence of Roman architecture, later to blossom so luxuriantly in the works of the Renaissance. Romanesque and Byzantine influences were also to be reckoned with. In Europe, these styles were transplanted from Italy, and Gothic was a native growth: in Italy the reverse condition existed, and the Italians were surrounded not only by a profusion of edifices of Romanesque and Byzantine design, but by the immortal remains of ancient Rome itself.

Many features, then, entirely strange to the Gothic



**A characteristic Italian rendering of Gothic architecture, rich in the colour, detail and surface decoration later seen in Renaissance architecture
(The Palace of the Doges, Venice)**



**An architectural composition, full of detail and colour, recalling the Byzantine style, yet with many points which forecast the later architecture of the Renaissance
(The Palazzo della Ca' d'Oro, Venice)**

SECULAR GOTHIC ARCHITECTURE IN ITALY



A TYPICAL ARCH-AND-COLUMN COMPOSITION OF THE ITALIAN RENAISSANCE, BASED ON THE ROMAN USE OF ARCH AND COLUMN
(Courtyard of the Farnese Palace, in Rome)



THE ARCHITECTURAL DIGNITY OF THE ITALIAN RENAISSANCE
(These laws of "order" made the work of the great Renaissance architects of Italy a precedent for all time.)
(Piazza of the Vatican Colonnade, Piazza di S. Pietro, Rome)

architecture of Northern Europe are characteristic of the Gothic architecture of Italy. The profusion of rich marbles made it natural to perpetuate the Byzantine decorative element, in mosaics and wall-panels of contrasting marbles, while the prevalence of brick as a building material in many parts of Italy made it natural to perpetuate the Romanesque characteristic of horizontal bands of different kinds of brick. Round arches and Byzantine capitals and ornaments were as plentiful in Italy as Gothic pointed arches and Gothic traceries. Thick walls and small windows were necessary as a protection from the sun and heat of Italy, so that the elaborate windows of French and English Gothic churches were not a part of the Italian development of the style, and this further encouraged the decorative treatment of wall-spaces.

The absence of snow made unnecessary the sharply pointed roofs of Northern Europe, so that the slightly pitched tile roof of the Romanesque buildings remained in favour. There was a good deal of colour in the Gothic architecture of Italy, and less elaboration of stone as a building material.

Of all Italian Gothic buildings in the perpendicular or pointed style, none is so impressive or so important as the Cathedral of Milan, with its countless spires and lace-like detail. No other building in Italy, perhaps, is so essentially Gothic, in the true manner of its style and rendering.

In secular architecture the master-builders of Florence and Venice designed a great many rich and highly decorative façades in a distinctly Italian interpretation of Gothic forms, notably (in the latter city) such buildings as the Palace of the Doges and the famous Palazzo della Ca'd'Oro.

Despite many beautiful and interesting Gothic monuments in Italy, one does not associate the style with the country or with its people. The architectural and artistic expression seemingly the most thoroughly and peculiarly Italian is the style of the Renaissance, which, throughout the period of Gothic architecture, was here and there, in inconspicuous details, gradually taking form and substance.

RENAISSANCE ARCHITECTURE

Based on Classic forms, but inspired by the genius of the most remarkable epoch in the world's history, Renaissance architecture followed Gothic architecture and left a wealth of precedent which succeeding centuries of adaptation have not exhausted.

The real spirit of Renaissance architecture is not easy to define in a few paragraphs, because much of its inception and growth was inseparably bound up with that remarkable movement which is known as the "Revival of Learning." Historically the period of the Renaissance which began in Italy in about 1400, at the dawn of the Fifteenth Century, was the period of *transition* from the Dark Ages to the Modern Age, and in the span of the Renaissance from 1400 to about 1643, the world witnessed many momentous discoveries and inventions.

The Dark Ages, or the Mediæval Period, had been one of narrow and bigoted theology, with ignorance prevalent among the masses, and a certain degree of rather crude scholarship confined to the churchmen. It was the age of feudalism, when all men were virtually slaves or chattels of their lords, and the lords themselves were in awe of the power of the Church. It is remarkable that a period of such constraint and pre-



**THE ARCHITECTURE OF THE ITALIAN RENAISSANCE MAGNIFICENTLY
APPLIED TO THE DESIGN OF AN IMPORTANT CHURCH
(St. Maria della Salute, Venice)**



**TYPICAL COMPOSITION AND DETAIL OF ITALIAN RENAISSANCE
ARCHITECTURE
(Library of the Cathedral of Siena)**

vailing ignorance could have evolved any fabric so remarkable, so complex or so brilliantly ingenious as the fabric of Gothic architecture.

In a different way, however, the architecture of the Renaissance was even more brilliant, and more expressive. Gothic architecture expressed the ecclesiasticism of one period—Renaissance architecture expressed the humanism of another period. Gothic architecture was sombre, aloof from human life, a thing consecrated to the Church. Renaissance architecture was spirited, closely allied to human life, a thing developed from human interests.

Renaissance architecture was a part of the intense interest in the glories of the past arts of Greece and Rome, an interest which embraced literature, philosophy, pagan mythology and all the remains of the wonderful past civilisation of the world. The impetus of enthusiasm swept aside the warnings of the Church, the dictum that all things pertaining to ancient Greece or Rome were pagan and unholy. Long enthralled by the absolutism of the Church, liberated minds actually welcomed arts and philosophies which were pagan and unholy.

In architecture, Gothic forms were immediately abandoned for Roman forms, and with these forms as a basis and an inspiration, the architectural genius of the Renaissance developed a style of new and vital expression.

Such architects as Bartolommeo, Alberti, Brunelleschi, Palladio, Peruzzi and Bramante immortalised their names by the brilliancy of their architecture. The period was one of prosperity in Italy, especially in such important centres as Florence, Milan, Rome and Venice. Great patrons of art came to light in the



heads of the powerful families of merchant-princes and Italian nobles such as the Medici, the Strozzi, the Davanzati, and many others. The Church, also, realising that the Renaissance was a movement too powerful to resist, took its place in the front rank as a patron of art, architecture and the revival of literature.

Church, state and people were in a closer relationship to one another than at any previous period in the world's history. Men of humble origin became great as painters, sculptors, architects or writers: the period was one of intense intellectual and creative effort.

To this may be ascribed the richness and imagination displayed in Renaissance architecture: its refinement of proportion and studied balance were the result of Classic inspiration.

The wealth of the powerful families prompted the erection of stately palaces in the cities and luxurious villas in the country—buildings which have been the inspiration and study of succeeding generations of architects.

This brief sketch of the period, with its slight suggestion of the impelling spirit, may help in the interpretation of Renaissance architecture in Italy. In the countries of Northern Europe, which gradually received the impetus of the great movement, the developments were logical composites of Italian forms handled by other hands and blended with other national traits.

In Italy the Renaissance architects used column and arch extensively, built splendid domes, such as those of Ste. Maria della Salute and St. Peter's, and showed great fancy for surface decorations and the use of diverse materials. Construction played a subsidiary part to design, as is evidenced by such frank expedients as the introduction of light iron tie-rods between the

supports of arches and vaults, to take the thrust which could not be met in the design.

Two characteristic methods of surface decoration other than carving or mosaic were highly developed in the period of the Renaissance—methods which to-day are virtually lost arts: *Fresco* and *Sgraffito*.

The Frescoes of the Italian Renaissance called for the utmost skill of the painter-draughtsmen who executed them. Specially mixed pigments were rapidly applied while the plaster was still wet, so that, upon its hardening, the decoration became a part of the actual material. Frescoes were often applied in exterior decoration, in lunettes, spandrils of arches, panels or on entire façades, and were extensively used in church interiors and ceilings. The example of Michael Angelo's ceiling of the Sistine Chapel is a conspicuous and well-known one.

The art of Sgraffito also demanded the utmost dexterity in its execution, being carried out while the stucco or plaster finish of the wall was in the process of hardening. Briefly, it consisted of laying a ground-coat of plaster, darkened to a gray-black by the mixture of burnt paper, or brown by the mixture of Sienna. Upon the hardening of this coat, a finish-coat of stucco or plaster was applied, and on this the workman quickly transferred his ornament, cutting and scraping it out so that the dark under-coat showed through—and it was necessary to do this before the finish-coat hardened.

Both processes are extremely decorative, but require exceptional skill in their execution, and a uniformly temperate climate like that of Italy for their preservation when applied to exteriors.

Typical Italian Renaissance architectural compositions are those of column and arch or pilaster and arch,

Roman entablature, elaborate pediment and general profusion of ornamental detail. The so-called "arabesque" decoration of the Renaissance pilaster is one of the most characteristic single details of the style. Another Renaissance design of frequent recurrence is the statuary niche, with the upper portion in the form of a shell.

No type of architecture compares with that of the Italian Renaissance as so remarkably combining richness and profusion with dignity and restraint. Singled out from the multitudinous characteristics of this complex style, with its seemingly infinite variety of manifestations, perhaps the two most salient features are surety of proportion and intelligent application of ornament.

By far the greater number of buildings of the Italian Renaissance have long been models of virtually perfect proportions and perfect scale—and Renaissance ornament constitutes an encyclopædia which is still the guide and inspiration of designers in every civilised country of the world.

So powerful is the import of the Italian Renaissance that, itself a re-birth of Classic ideas and ideals, its re-discovery in the Eighteenth Century caused a second "Classic Revival"—a movement which, redundancy notwithstanding, might be called a re-Renaissance. The tribute is, basically, to be laid before the Classic architecture of Greece and Rome, which furnished the inspiration of the Renaissance itself.

It was natural that Italy became the point of pilgrimage for all eager painters, architects and scholars, who flocked to learn and assimilate what they could from the works of the Italian masters. And so the message of the Renaissance was carried to France, to

the Netherlands, to Germany, to Spain, and lastly to England.

In France, architecturally, the style of "Francis I," or "*François Premier*," is the best-known and most conspicuous manifestation of the Italian Renaissance—a blending of native mediæval forms with native interpretations of Italian forms. Many magnificent châteaux were built at this time, their most striking and native feature being the sharp, pointed roof on the round tower. Such roofs, in more temperate Italy, were unnecessary, and the Italian roof was nearly flat and constructed of tile, with wide, overhanging eaves.

The architecture of France, although it underwent marked changes in the period of the Renaissance, was more definitely stamped by Classic forms in the Eighteenth Century Classic Revival.

In the Netherlands, Renaissance architecture was developed in a richly elaborate manner, evidenced no less in the furniture designs of the period than in the buildings. Italian forms found great favour, and the most popular Flemish development was that of the half-human and half-decorative pilaster, tapering toward the base, and terminated by a Flemish-Classic human torso, male or female, usually treated as a caryatid, supporting an elaborate entablature.

In Germany, Renaissance architecture found less favour, Italian forms seemed less understood or less welcome than in the Latin countries, and the development was to a great extent similar to that in Holland and Belgium.

In Spain the architecture of the Italian Renaissance, strangely and richly blended with traces of Moorish influence, and some echo of the Gothic forms, formed the basis of a peculiarly interesting and complex type.

In England the Renaissance found its highest expression in the reign of Queen Elizabeth, so that the term "Elizabethan," when applied to a country house, is synonymous with the term "English Renaissance." The more important buildings of this period in England were distinctly formal and dignified, with little of the spontaneous diversity of the Italian Renaissance. Italian forms, however, constituted the basis of design, and deeply influenced all subsequent English architecture. The English Renaissance development of greatest interest to-day, by reason of its importance in the evolution of the modern country-house, was the Elizabethan manor. The country free from internal wars, the government powerful and protective, the element of defence became increasingly less in evidence. The houses became more livable, more comfortable and "modern" in character. Increased facilities for the manufacture of glass brought about the design of beautiful leaded windows. The interiors were rich in carved woodwork, and floor coverings came into use. The Elizabethan, or English Renaissance country-house, as will be shown later, was an important step in the development of the country-house of to-day.

There is often some danger of confusing Tudor, Elizabethan and Jacobean country houses, for the reason that the development through these three periods was so continuous and so consistent.

In the Tudor period, beginning with the reign of Henry VII (1485-1509), the Gothic style became, as it were, domesticated, less ecclesiastical. The flat pointed arch was the characteristic. In the reign of Henry VIII (1509-1547), while many Tudor traits adhered to English architecture and furniture, some advance influences of Renaissance (Elizabethan) forms began to appear.



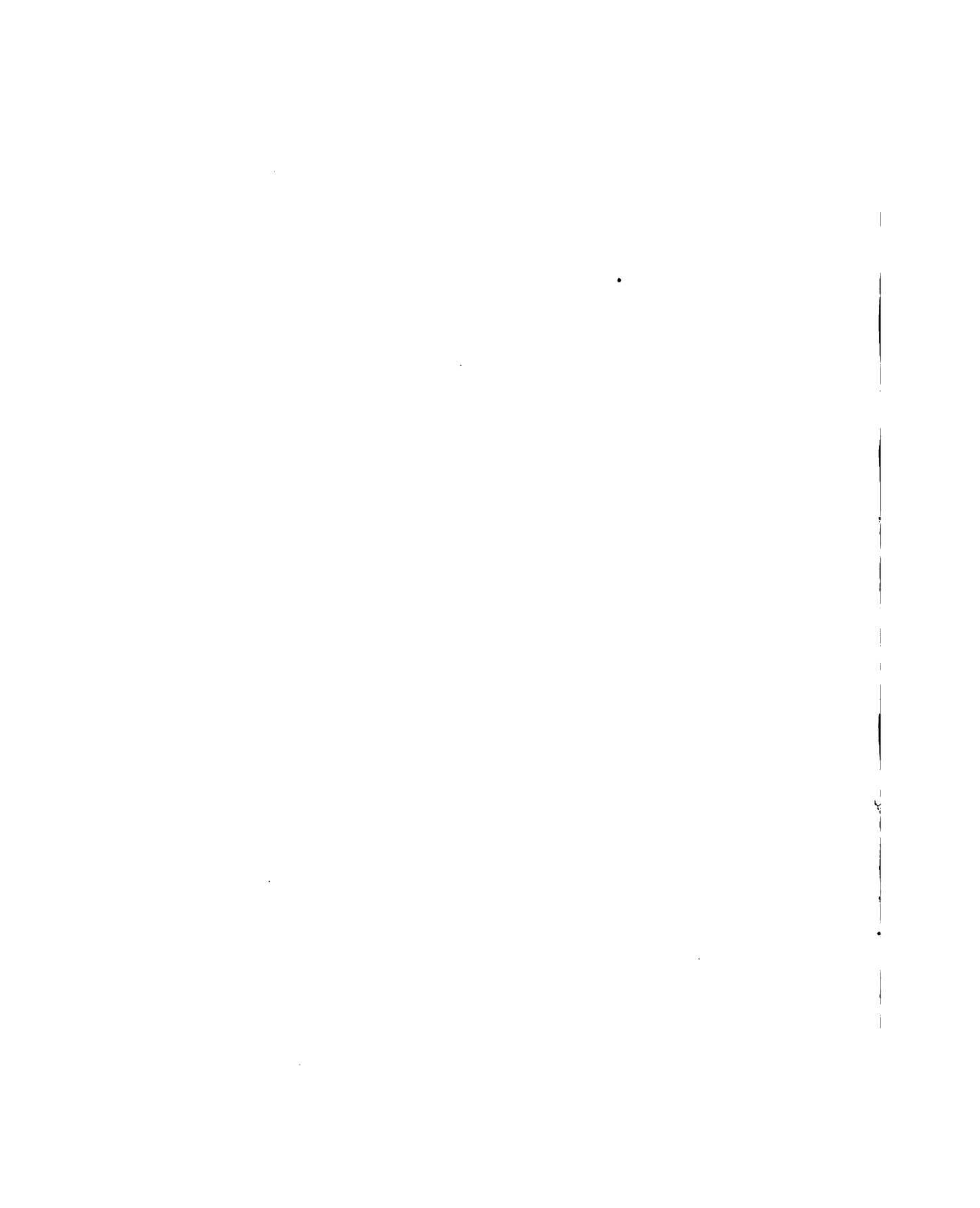
THE RENAISSANCE IN ENGLAND

The station of the Royal Horse-Guards, at the entrance of Whitehall, in London, is typical of the English Renaissance expression of monumental architecture



THE GREATEST MONUMENT OF ENGLISH RENAISSANCE ARCHITECTURE

St. Paul's Cathedral, in London, designed by Sir Christopher Wren, typifies the entire character of the English conception of the architecture of Renaissance Italy. (The lower portion is hidden by buildings in the foreground)



The reign of Elizabeth, from 1559 to 1603 (when the Jacobean period began) saw the height of the Renaissance in England, and prepared the way for further development in the succeeding period.

The Jacobean period, covering the years from 1603 to 1688, saw a more thorough assimilation of Italian forms and ideas, together with the beginnings of French influence.

The stage was then occupied from 1688 to 1702 by the Dutch-English sovereigns, William and Mary and Queen Anne, during whose reigns influences from Holland were strong.

The most notable monument of Renaissance architecture in England is St. Paul's Cathedral in London, commenced under the reign of James I (1603-1625), by the great architect of the Jacobean period, Sir Christopher Wren. St. Paul's Cathedral may be regarded as typical of the English conception of Renaissance architecture, as well as typical of much contemporary work of lesser magnitude.

A contemporary architect of equal influence on his times was Inigo Jones, who designed a great many of those small city churches which furnished the inspiration for the designers of our Early American churches.

St. Paul's Cathedral was not completed until after the Jacobean period, in the reign of Queen Anne (1702-1714), and its architect, Wren, lived until 1723, dying during the reign of the first George.

The final development in England, partly a belated echo of the Renaissance, took place during the Georgian period, from 1714 to 1830, manifesting itself in what is called the Eighteenth Century Classic Revival, which will be dealt with in the chapter following.

The period of the Renaissance in Italy was a period

too brilliant intellectually, and too unstable socially and politically, to last indefinitely. It is remarkable, indeed, that it lasted over two centuries. It must always be remembered that those two centuries left to the world of art and architecture a priceless legacy of unsurpassed works of genius.

The decadence of Renaissance art is to be seen in the Rococo or Baroque development of the last three quarters of the Seventeenth Century. Ornament was developed to an extravagant and tastelessly disproportionate degree—architectural forms were distorted and perverted in a thousand fantastic and impossible vagaries. Structural principles were ignored, and decoration was the main feature, not the embellishment of Baroque buildings.

It has been the habit of most architectural critics to sweepingly condemn all Baroque architecture, but such condemnation is neither intelligent nor merited. Granted that the style may be proved fundamentally illogical on many scores, it evolved many forms of permanent beauty and value, and was, if nothing else, an essentially decorative style, later developed along more rational lines in some phases of the French style of Louis XV. Despite the usual dismissal, then, of the Baroque or Rococo style as a mere architectural curiosity, entirely decadent, and even artistically immoral, it will be found more valuable to place it as a distinct expression of a peculiar idea, and an undeniably interesting page in the sequence of the architectural styles of the past.

This chapter, together with the preceding chapter, has been designed, in a necessarily brief manner, to trace and define the evolution of architecture from its ancient forms in Egypt and Assyria, through the

CHAPTER IV

THE CLASSIC IDEAL

A STUDY OF THE IMMORTAL QUALITIES OF CLASSIC ARCHITECTURE. ITS MANIFESTATIONS IN SEVERAL "CLASSIC" REVIVALS. THE IMPORTANT PLACE OF CLASSIC ARCHITECTURE IN THE DESIGN OF PUBLIC BUILDINGS. THE SCHOOL OF THE BEAUX ARTS, ITS TEACHINGS AND ITS WIDE INFLUENCE

CLASSIC DERIVATIONS AND THE BEAUX-ARTS SCHOOL

IN tracing the course of the Classic Ideal, and in recognising its recurrence in the most important of modern buildings, one is impelled to inquire: What, exactly, is the Classic Ideal?

The answer is a simple one, yet fraught with great significance in architecture. The Classic Ideal is the Ideal of Order. It is because Classic architecture was based on the idea of order that it was characterised by purity, and its order and purity, being immortal qualities, have caused Classic architecture not only to live, but to stand to-day as the rational basis of the architectural design of all time.

Gothic architecture was ingenious—a magnificent and beautiful experiment. Classic architecture was not experimental—its principles were as sound as Euclid in their day, and have lost none of that soundness in the centuries which have passed.

In the architecture of the Renaissance there were many paradoxes, even shams, much earnestness, but a minor amount of the experimental quality of Gothic architecture. There was, however, enough of Classic order in Renaissance architecture to give it some degree

of the immortal qualities of the Classic and make it a potent factor in the architecture of to-day.

The three "Orders," or types of Greek columns, comprised later in the Roman "Five Orders," were symbols of Classic architecture, details of a much larger whole. And these "Orders" are architecturally fine not because Vignola, or "precedent" or the schools say they are fine, but because they were conceived in logic and executed in terms of purity of form.

The Greek relationship of column to entablature is a standard because it is logical and because the members are relatively complementary—not because the arrangement is "Greek." The merit of the Classic column and entablature rests in the fact that the column is (both structurally and apparently) adequate to support the entablature which rests upon it, and the entablature is of adequate weight to explain the girth of the column. A perfect balance exists.

Before proceeding further, it seems advisable to present a brief outline of the logical growth of the Classic column.

The first Greek order, the Doric, was massive and heavy, the columns placed closely together, and seeming (as well as being) more massive than necessary to support the entablature. The refinement of a base had not been thought of. Logical design, meaning a relation of form to structure, however, was apparent in the Doric capital. The shaft of the column was cylindrical, the beam resting upon it was rectilinear. It was necessary to effect a transition. It was also necessary to effect a transition from the vertical line of the column to the horizontal line of the architrave, or beam, which rested upon it. Hence the "abacus," the circular, bowl-shaped member surmounting the shaft.



**"CLASSIC DERIVATIONS" FOR MODERN AMERICAN
BANK BUILDINGS, BASED ON THE DORIC AND THE
IONIC ORDERS OF ANCIENT GREECE**



McKim, Mead & White, Architects

Photograph by Julian Buckley

**Buildings of the type called "monumental" are best rendered in terms of Classic dignity
(The New York City Post-office)**



Shepley, Rutan & Coolidge, Architects

**Classic precedent is apparent in virtually all large buildings where dignity is a requisite
(New building for the Harvard Law School, Cambridge, Mass.)**

The beauty-loving Greeks, however, were not long content with the heavy, often clumsy proportions of the Doric order. Their first effort toward lightening it appeared in the vertical fluting of the shaft. To add a little "detail" they designed a few rings, or "annulets," immediately below the abacus.

The next evolution was the Ionic capital, its spiral "volute" derived from Asia Minor and used in conjunction with an almost concealed abacus. With the development of the Ionic order, it was found that the great girth of the Doric column was not necessary, and consequently the shaft was lightened and its verticality emphasised by delicate fluting.

The final development came in the Corinthian order, in which the design of the capital effected a perfect transition from shaft to entablature, from the vertical to the horizontal, and from round to square. It will be seen upon study of the Corinthian capital how this transition was achieved. First, the necking indicated the height of the clear shaft, without actually terminating it abruptly. The lines of the shaft continue upward through the foliation, gradually springing outward in the volutes which support the abacus. This abacus, in the form of a square with concave sides, performs the dual function of fitting the shape of the capital and conforming with the architrave which rests on it. The spread of the Corinthian capital immediately below the abacus gives the additional impression of the weight of the superimposed entablature, while any sense of too great weight is counteracted by the lightness and grace of the detail of leaves.

It can never be gainsaid that the Corinthian capital is a masterpiece of design, being both expressive of its function and beautiful in its form.

With the evolution of the Greek column, there naturally took place a corresponding evolution of the entablature, both in its proportions and its decoration.

The Greek Doric entablature (as exemplified in the Parthenon) consisted of a plain architrave, a frieze divided into triglyphs and metopes and a cornice, which was split to run upward into the great pediment.

The proportions of the Greek Ionic closely followed those of the Doric, but the frieze was a continuous band, allowing of a continuous decoration of bas-relief figures. The heavy appearance of the architrave was remarkably lightened by the expedient of splitting it up into three horizontal divisions, the upper two slightly overlapping the lower, and a fine decorated moulding marking the division from the frieze. The cornice member, also, was decoratively elaborated to some extent, introducing (in later examples) the dentils and modillions of the Corinthian cornice.

The Corinthian entablature is a model of skilful and adequate proportions and aptly applied decoration. The architrave and frieze remained as in the Ionic form, but the cornice, the last, or "finishing" member of the building, was elaborated to form a crown, and logically terminate the entire composition. It was required to effect "interest" in diversified shadows, so the "dentil" course was made a part of the Corinthian cornice, and the various mouldings were decorated. Greater projection was required, in order to cast a strong shadow at the top of the building, but it was evident that a plain "overhang" of stone, far beyond the face of the frieze, would seem as though likely to topple down, no matter how securely it might actually be anchored into the masonry of the entablature. To correct this illusion, the "modillions" were



Willis Polk, Architect

A GRACEFUL "CLASSIC DERIVATION" IN A UTILITARIAN STRUCTURE

This use of a Classic order is illustrative also of the Classic derivations often seen in memorial monuments, garden temples and mausoleums
(Water Temple, Sunol, California)



Trowbridge & Ackerman, Architects

ANGLO-ITALIAN DERIVATION IN A GARDEN TEA-HOUSE

This small building, in the garden of a large American country place on Long Island, presents an interesting study in dual derivation. It is excellently in character with the Renaissance architecture of England, which the English borrowed from Italy



**A WORK OF PURE CLASSIC INSPIRATION COMBINING ELEMENTS BOTH
GREEK AND ROMAN
(The "Marble Arch" entrance to Hyde Park, London, England)**



Richard Morris Hunt, Architect

**CLASSIC DERIVATIONS ARE APPARENT IN VIRTUALLY ALL MODERN
BUILDINGS FOR MUSEUMS, LIBRARIES AND ART GALLERIES
(The Fogg Museum of Art, Cambridge, Massachusetts)**

introduced—light, graceful brackets, spaced at intervals, and seeming to take care of the overhang of the uppermost portion of the cornice. An additional ingenious expedient was the treatment of the underside of the overhang, in the spaces between the modillions, with sunken panels, or “coffers,” the intention being to cause the projecting slabs both to be and seem lighter.

These were the “Three Orders.” The famous “Five Orders” of Vignola added two developments, the Tuscan, or Roman Doric, and the Composite, or Roman Ionic. Neither will be seen to embody new principles—they are variations. The Roman Doric order (later exceedingly popular in the Renaissance, together with the Corinthian) was a refinement of the Greek Doric, with slighter girth and the addition of a base. The Composite was, in effect, a combination of the Greek Ionic volute and a decorated Doric abacus, differing from Greek Ionic mainly in that the volutes sprang out in a cornerwise, or diagonal direction, instead of lying parallel with the lines of the architrave.

The Romans did not use the three original Greek orders exactly as they found them, but made many minor changes in proportions, and treated both column and entablature with far more ornateness than characterised Greek architecture. The most characteristic Roman development, later enthusiastically adopted by the Renaissance builders, was the arch placed between two columns, in a manner illustrated by the treatment of the great Colosseum, and seen in most of the Roman triumphal arches. Pilasters corresponding with all three of the Greek Orders and all five of the Roman Orders, were developed in conformity with the columns, and were greatly favoured as purely decorative features by the Renaissance architects.

These are the barest elements of the "Classic Orders," and in previous chapters we have seen them buried in the fall of Rome, then a fickle attempt to perpetuate them, even while departing from them in the Romanesque and Byzantine architecture which led to the development of the Gothic style. Classic forms, then, for three centuries, were forgotten, but were re-born—came to light again for three glorious centuries in the period of the Renaissance. Then, for nearly a century, Classic forms were misused, even if not entirely forgotten, in the vagaries of the Baroque and Rococo styles.

In the latter part of the Eighteenth Century, a reaction from the extravagance of Baroque was inevitable. And the reaction took the form of the Classic Revival in France and in England. Some feeling of this revival manifested itself in this country even as late as the first two decades of the Nineteenth Century. And while there is at the present period no feeling in design so sweeping or general as to be called a "Classic Revival," *Classic derivations* are everywhere apparent, and almost invariably in such monumental buildings as are desired to express qualities of *dignity* and *permanency*, such as capitols, post offices, libraries, museums, banks, and the larger railroad stations.

THE CLASSIC REVIVAL IN FRANCE

Observation of the Classic Revival is best begun in France with a momentary survey of the progress of architecture immediately preceding the period of Louis XVI.

The reign of Louis XIV came to a close in 1714 and the architecture of the period, as well as that of the preceding period, was pompous, elaborate, grandiose.

Buildings of the time show a conflict between Renaissance order in design and Baroque extravagance, and all carried out in what was called (most appropriately) "The Grand Manner."

The succeeding period, that of Louis XV, is often called the "Rococo" period, because the "rock-and-shell" style reached its height at this time. "Louis Quinze work is practically synonymous with Rococo, the fanciful rock-and-shell curves that, like some fungous growth, invaded all branches of decorative art with amazing recklessness and rapidity." The characteristics of the period were distinct in their nature, though elaborate and various in form. Curved lines and intricate foliation appeared in all designs, and lack of symmetry was considered a desirable achievement. Importation of many works of art from China at this time added Oriental fantasies to the already fantastic Baroque-Rococo style, which grew increasingly extravagant throughout the reign of Louis XV. Much decorative work of the period is by no means without merit, but the style was too frivolous to effect any permanently great architectural expression.

Despite the intense interest in the Rococo style, its very extravagance finally became so wearisome and distracting that the reaction of the Classic Revival set in with the reign of Louis XVI (1774-1793), and Classic forms became increasingly popular until the close of the "Empire" period, in 1814.

Despite the uncertain character of "style" through the reigns of Louis XIII, Louis XIV, and Louis XV, such buildings as the palace at Versailles, and the Louvre in Paris were being planned and commenced. The Classic dignity of many portions of Versailles is to be attributed to J. H. Mansart, the master-architect

of Louis XIV, who vastly enlarged the palace. The name of Mansart is preserved to-day in the French type of roof which we call, in this country, the "mansard" roof. In the works of Mansart, such as his additions to Versailles and the Second Church of the Invalides, there was much of the Classicism which became the national architecture of the period of Louis XVI, after the Louis XV Rococo fallacy had lived its butterfly span of life. Mansart's conception of Classic forms, as well as those of his contemporaries and immediate predecessors, dealt with a *heavier* Classicism than that of Louis XVI—an imposing and dignified style, its admirable qualities of proportion and alignment of parts playing an important part in the later development of French architecture.

The Classic elements of the architecture of this period, however, owed their inspiration not directly to Classic sources, but to the architecture of the Renaissance. The periods of Louis XIII and Louis XIV did not constitute a period of Classic Revival, but rather a continuation of the impulses of the Renaissance—almost a re-Renaissance, in which Classic forms were struggling to shake off the vagaries of the Baroque style.

The real French Classic Revival took place under Louis XVI, and in this period the architects and designers were impelled by a dual Classic inspiration—the Classicism of the Renaissance, strengthened by the direct influence of the great archæological discoveries made at that time in Greece and Rome, and especially in the buried ruins of Pompeii and Herculaneum. The stimulus caused by these discoveries can be likened only to the boundless enthusiasm evoked from the pioneers of the Italian Renaissance in 1400, when they first be-



Malcuit, Photographer
AN EXAMPLE OF THE DELICATE EIGHTEENTH CENTURY CLASSICISM OF
LOUIS XVI
(The "Orangerie," in the Bois de Boulogne, Paris)



Photograph by Neurdein & Cie

A TYPICAL EXAMPLE OF LOUIS XVI ARCHITECTURE
(The Château de Bagatelle, in the Bois de Boulogne, Paris)



Warren & Wetmore, Architects

A PURE DERIVATION OF THE FRENCH CLASSIC ARCHITECTURE OF LOUIS XVI
 There is apparent here the nicety of alignment in composition, as well as the restraint in the modelling and application of detail characteristic of the best French Classic architecture
 (A Jeweller's shop on Fifth Avenue, New York)



Delano & Aldrich, Architects

CLASSIC FRENCH (LOUIS XVI) DERIVATION IN THE CROWNING STORY OF A BUSINESS BUILDING

Traits of the style are apparent in the finial urns, the use of carved cloth "drapes" and the use of a lyre as a "musical attribute." General severity of profile and flatness of relief are also characteristic
 (Premises of a New York City Music Publisher)

came aware of the possibilities lying dormant in the so long neglected treasure-house of antiquity.

The Classic Revival as reflected in the architecture and other arts of the period of Louis XVI showed a complete reversion from Baroque and Rococo forms, and developed, in what is known as the "Formal Phase" of Louis XVI, a style of the utmost refinement and urbanity. Wall surfaces were kept flat, mouldings and cornices had slight projections and were finely modelled. Ornamental sculpture was treated in flat relief, and usually confined to a panel or medallion. Elliptical window openings, with garlands hanging down on each side, as well as elliptical medallions, were very popular, and another architectural characteristic was the frequent introduction of "attributes" for decorative purposes. These "attributes" consisted of admirably designed groupings, in low relief, of objects symbolically associated with the building—such as antique tragic and some comic masques, lyres and other musical instruments for the façade of a theatre or concert hall (as at Amiens), palettes, paint-brushes and other paraphernalia for an art gallery.

Earlier French characteristics of architectural composition, called, even at this period, "academic," still governed the Classic Revival architects of the period of Louis XVI, and the great change was chiefly in matters of detail.

While many forms were purely Classic, derived directly from ancient sources, there were many forms, also, of Italian Renaissance origin.

Later French architecture, as formulated and taught by the great *École Nationale des Beaux Arts*, blended these two kinds of detail, developed a certain more "modern" feeling as well, and adhered strictly

to the earlier French "academic" emphasis on symmetrical and axial plans. Architecture as taught at the *École des Beaux Arts* has had a wide influence on the architecture of many countries outside France, because of the fact that students from other countries spend periods of years in study there, assimilating the style and the habits of architectural thought which produce what is called "Beaux Arts Architecture." This type of design and detail is of such great importance that it will be discussed more thoroughly directly following the history of the Eighteenth Century Classic Revival.

The architecture of no period subsequent to that of the ancient Greeks has developed along lines of such studied refinement as that of the period of Louis XVI—the period which produced the *Petit Trianon* at Versailles, the *Château de Bagatelle* in the Bois de Boulogne, and so many other buildings describable only by the term "exquisite."

The period of Louis XVI was followed, after the two-year "Reign of Terror" of the revolution, by the *Directoire* Period, which covered the years 1795 to 1804. Classicism was carried even further than under Louis XVI. It invaded the realm of women's dress, with the "Tunique à la Grecque," and with such Classic costumes and coiffures as that of *Mme. Récamier* in the famous portrait by David, which shows, as well, the purely Classic furniture of the period. The "Allegorical" portrait was greatly in favour, as in the reign of Louis XVI when the ladies of the Court were portrayed in Classic draperies, as "Diana" or "Hebe," or Greek nymphs of mythology. This was the period of tastes called "Neo-Grec" or "Neo-Classic."

The decade of the Empire (1804–1814), following the period of the *Directoire*, saw, at the dawn of the

Nineteenth Century, a taste for Classic and archæological forms amounting to a mania. Not content with inspiration from the remains of Greece and Rome, architects and designers revived Egyptian forms—sphinxes and terminal figures, heads and other details. The Classicism of the Empire outdid, in profusion of archæological forms, the Classicism of the very antiquity which formed its inspiration. Many details of the preceding schools of French architecture survived, notably the use of "attributes" as a decorative motif. Under such a warlike Emperor as Napoleon, these attributes were most often military, bristling with spears, and introducing not only Roman helmets and armour, but trappings of design current at the time.

So complete was the leaning toward archæological forms that much architecture of the Empire period is too extravagant to possess merit, even though nearly all Empire designs are interesting. The two great names of the period were Percier and Fontaine, who were no less noted for their furniture designs than for their architectural achievements. These two architects, indeed, are generally regarded as the creators and the foremost exponents of the Empire style.

Despite its bombastic and grandiose qualities, its heaviness and its frequent lack of refinement, the Empire style seldom failed to achieve dignity, and many works of the period are of a high order of architectural excellence. Italian precedents were virtually ignored or forgotten in the enthusiasm over antique forms.

Among the most interesting of all relics of the period in France are the apartments remodelled for Napoleon at Fontainebleau, Compiègne and Trianon, and the country-house, Malmaison, done for the Empress Josephine. Extreme as was its nature, many archi-

tectural details of the Empire period have survived in the architecture of to-day. When any pronounced style is followed with such extravagance as the Empire style, however, to the exclusion of all other thought, it usually degenerates, or becomes so wearisome as to be supplanted by a new style. Even the great architecture of the Italian Renaissance saw its decadence in the development of the Baroque. The Empire style was no exception, and after the presence of Napoleon was no longer felt in France, Neo- or Ultra-Classicism gradually died out, failing, in the absence of that first glow of enthusiasm which had aided its initial expression, to create works of sufficient stylistic spontaneity to possess lasting characteristics.

The impetus of the Classic Revival had swept away much of the official influence of the "Academic School" of architecture which had begun to exert national influence prior to the period of Louis XVI, and with the decline of the Empire "archæological" school, the *École Nationale des Beaux Arts* began to take definite form, and to build up the prestige and the stylistic formulæ which to this day characterise French architecture, and much of the architecture of the world.

THE CLASSIC REVIVAL IN ENGLAND

The Classic Revival in England commenced with the Georgian period (1714-1820), immediately following the Dutch influences of the reign of Queen Anne, and lasted, though waning somewhat in its Classicism toward the end, until the beginning of the Victorian era in 1837.

The Eighteenth Century Classic Revival in England reached its height during the reigns of the Georges, notably in the works of the Brothers Adam (1760-1820),

in the reign of George III. The Adams, however, were not the first architects to design in the "Classic Taste."

Following Sir Christopher Wren and Inigo Jones, the great English Renaissance architects of the Jacobean period, William Kent, who died in 1748, produced works which were more in the nature of a "Classic Revival" than of the style of the Renaissance. Kent's sources of inspiration, moreover, were directly received in Italy, and both Kent and a contemporary, Gibbs, produced many designs closely resembling the work of the later Empire period in France.

No English architects, however, popularised Classic forms to so great an extent as the Adams, or so skilfully employed antique motifs in the creation of modern buildings and furniture. The Classic Taste became the height of fashion, and, guided by the Classic ideal of dignity, a permanent stamp was placed upon English architecture which, especially in city buildings, is its characteristic to-day.

Classic ideas found extensive fashionable acceptance expressed in the architectural and decorative paintings of Angelica Kauffmann, and in the "allegorical" English portraits of the day. Parks and gardens conformed with the Classic trend of the period, with the frequent introduction of "garden temples" and Classic statuary. Sculptured busts in hemispherical niches were characteristic architectural features, and virtually all the more important buildings, whether ecclesiastical or secular, public or domestic, were of the "pediment and portico" type, with Classic columns. The period of the Classic Revival in England was a period of very earnest architectural effort, resulting in much work destined to exert a strong influence upon subsequent architecture on both sides of the Atlantic.

GEORGIAN COLONIAL IN AMERICA

With such widespread enthusiasm for Classic ideas in architecture in England, it is not at all surprising that this should have crossed the ocean to the American colonies, creating and moulding the style which should accurately be called "Georgian Colonial." The "American Classic Revival" was a distinctly different development, coming, as it did, largely from France, and at a considerably later date than the Georgian Classic influences.

The Georgian Colonial architecture of America, an extensive study in itself, will come under more detailed consideration in the eighth chapter. It is important here to establish its connection with the Georgian Classic Revival in England, and to recognise its distinction from the later American Classic Revival.

The Georgian Colonial types of American architecture took different forms in the North and the South, especially in the treatment of dwellings. In the North there is noticeable a great Georgian Classicism of detail, rather than of general form. New England doorways, windows and interior woodwork followed Classic formulæ, rendering Palladian windows and Greek orders with an honest carpenter's technique.

To differentiate the types of Georgian Colonial architecture in such New England towns as Salem, Newport and Boston; the varieties found in New York, Philadelphia and Baltimore; those still further south—this cannot be attempted in a cursory manner.

That the inspiration of the Colonial and Early American builders came directly from England is clear in the following paragraphs by Mr. Glenn Brown, from a note on the doorways of Salem, Massachusetts.

"The best work in Salem covers three periods, from

1745 to 1785 clearly showing the influence of the publication (in England) of Batty Langley in 1740, a work extensively used in this country. The title of the work explains the character of its information: '*Country Builders' and Workmen's Treasury of Design, or the Art of Drawing and Working the Ornamental Parts of Architecture.*'

"In the period from 1785 to 1810 the character of the work reflects the influence of James and Robert Adam, whose books on interior decoration were published in 1783 and 1786. After 1800 we see the effect of Revett and Stuart's publications, which were issued in 1788 and 1794-1816, as in this period Greek influence is clearly reflected. While our early builders made free use of these good publications, they were not simply copyists. They showed their individuality in design and their good taste in adaptation."

There were, in addition to the works mentioned by Mr. Brown, many others of like character and varying degrees of architectural merit. Among the best known of these American Colonial inspirations was "*The Country Builders' Assistant,*" filled with carpenters' details of Georgian doorways, window frames, cornices and interior woodwork. It is due to these books that Colonial and Early American architecture developed consistently and with a high general level of merit, over a large area and in a day when there were no architectural schools in this country, no great teachers as in France, and no ready means of European study for the aspiring architectural "apprentice." It is remarkable that by far the greater number of early American buildings were the work of carpenters, and were done from mere sketches, supplemented by details carefully transcribed from these precious English books. The

result is a lasting tribute to the conscientious love for their work which must have inspired and guided these master-builders of Georgian Colonial times in America.

THE CLASSIC REVIVAL IN AMERICA

The American Classic Revival, as distinct from the Georgian Classic inspiration, came about largely through the development of friendly relations with France and the distaste for things English during the War of 1812. So closely allied, indeed, is this American Classic Revival to the contemporary style of France, that it has often been called "American Empire." The popularity of the Ultra-Classic left a number of interesting monuments in this country, of which, perhaps, the purest example is to be found in the remaining portion of "La Grange Terrace," on Lafayette Street, directly below Astor Place in New York City, and opposite the old Astor Library. "La Grange Terrace," now called "Colonnade Row," was built in 1836, and comprised eight palatial city residences. So thoroughly Classic is this relic of the "Revival," and so essentially typical of the style as it found expression in this country, that the stately old façade repays close study. Despite the demolition of one-half its original form, and the many indignities it has suffered since the time when it was the centre of New York fashionable life, it retains a quality of dignity which is its inheritance from Greece itself, from the immortal architecture which, in ruins, dominates the world to-day.

At the street-line was a cast-iron fence, with Greek anthemions. The shallow porch was imposingly flanked by twin pedestals, on which stood cast-iron candelabra of pure Pompeian form. These approaches are spoken of in the past tense because a city regulation has

removed them as "sidewalk encroachments." The façade itself, which still remains nearly intact, is of admirable proportions in the relation of base, colonnade and entablature. The base, after the manner of contemporary French buildings, is of "rusticated" stone-courses, the joints strongly emphasised, and the entrance is flanked by pure Greek Doric columns, set-in and surmounted by an abbreviated entablature decorated with five wreaths of pure French Empire style.

Like the French city house, the street level is regarded in the nature of a basement—the stately drawing rooms are on the *premier étage*, or first flight. The lofty ceilings of these great rooms on the *premier étage* are expressed externally by the height of the windows, at the heads of which appear, again, the French Empire wreaths. This embellishment, furthermore, distinguishes the *premier étage* in importance from the story above it. The walls of the base are sufficiently thick to allow of a narrow gallery and the placement of the tall columns directly on it with a cast-iron rail running across the front.

The columns, each built of five drums of solid stone, are superb in proportion, the detail of the capitals being a direct replica of the Greek Corinthian monument of Lysicrates in Athens. The cornice is of pure Classic composition, and was originally crowned by a continuous cresting of Greek anthemions. The character of this façade has been considered here in detail, because it illustrates so admirably the very spirit of the Classic Revival, not only as expressed by American builders, but also typical of much work of the French Empire.

Following the Classic Revival in America, taste in architecture and taste in general relapsed into the

banalities and stupidities of the mid-Victorian period, from which it was not to emerge until the early "nineties."

THE DECLINE OF THE CLASSIC IDEAL IN ENGLAND

Returning to England, the Classic Ideal in architecture is found, about 1815, to be competing with a pseudo-Gothic revival, and with a spirit of restlessness and eclecticism which resulted in an architectural chaos. Fortunately the imprint of Classicism had been so strong, continuing through the reign of George III (1820), that the most important fundamentals of architecture were securely implanted.

The height of the Classic, or Greek Revival in England, shortly before its decline, was signalled by several important architectural publications which profoundly moved popular taste as well as architectural thought. In 1762 "*Antiquities of Athens*," by Stuart and Revett appeared; in 1764, Robert Adam's "*Spalato*"; in 1831, Inwood's "*Erechtheion*"—all works which had the effect of creating an intense admiration for pure Greek forms, independently of French or Italian interpretations.

With the decline of the Classic Revival in England, the study of English architecture, excepting in the province of the country house, becomes a matter too involved for any but the architect or the critic, and the conflict of styles and tendencies resulted in such diversified effort that no significant influences emanated from the British Isles throughout the Victorian era.

It is only important to allude to the Gothic Revival which was inspired by the writings of Ruskin in 1851, as well as by the writings of many earlier and contemporary architects and critics who held similar

views. Lacking real motive power, the rather ineffectual interest in Gothic architecture failed to produce any great works (since it was not an expression of the times), yet occupied architectural thought in England sufficiently to retard and almost stop the further development of Classic architecture.

The attempted Gothic Revival of Ruskin in England is interesting to the architectural "observer" in this country chiefly because it was the impulse for the fantastic "carpenter's" Gothic which left so many forlorn, hybrid traces in the form of "Gothic-American" country houses. The type is familiar, and many have wondered, perhaps, how these architectural curiosities "happened"—wooden houses which were nothing better than parodies of the "Gothic Style" which they aspired to "express" in pointed windows and sharply pointed roofs, from which hung jig-sawed wooden "tracery" and drop-ornaments. "Gothic" details, too "fine" (supposedly) to be entrusted to the carpenter, were done in very crudely executed iron castings, often, like the wooden sculpture, "sanded" to represent stone. The style is an interesting one for several reasons, although, architecturally, it is "impossible" and indefensible. It is interesting because so many examples remain in and about the more prosperous cities and towns of the United States, as far West as Michigan, and because it so forcefully illustrates the futility of an artificial rendering of an artificial "revival," neither rendering nor revival half understood, and the nature and expressiveness of style and material wilfully or blindly ignored. Carpenters and contractors who carried out buildings in this style may have been ingenious, but certainly were not intelligent.

This "Gothic" aberration, combined with an ex-

tremely poor and ill-considered bourgeois French architecture of the "eighties," made American architecture of that period "an imitation of something, which, even if genuine, would be undesirable." It is to this period that we owe the sorrowfully familiar "brownstone front" type of city house, and the country "mansion" which was an enormous box in shape, with an ungraceful rendering of the steep Mansard roof, the whole crowned with a strange protuberance like a conning-tower, entirely without purpose in itself, or relation to the building. Builders of a more sprightly and enterprising turn of mind erected, for their wealthy clients, or (in this case) victims—a strange version of the Swiss Châlet, many examples of which still exist, modestly retired behind the tall trees of their grounds.

The Classic Ideal was forgotten, no other style was understood, or appreciated, and any one possessing an architectural consciousness must, at this time, have despaired of the future of American architecture.

THE CLASSIC REVIVAL IN GERMANY

Early in the Nineteenth Century Berlin and Munich were centres of a powerful Classic Revival, but the German rendering of Classic forms showed more vigor than *finesse*, and more archæological exactitude than feeling. Many important buildings of considerable magnitude and entirely Classic character, in both Germany and Austria, such as the Parliament Buildings of Berlin and Vienna, testify to the influence once exerted on Teutonic architecture by Classicism. It is strange, however, that these, and other buildings of both prior and subsequent date, fail to express any real or absolute architectural conviction on the part of their designers. The Classic Ideal was a "study," not an

taken place; the very foundations of the past have been erased, and we find a strange new art, with touches of the mysticism of the East and possessing much daring cleverness, imagination, and a strong artistic quality. In it there is unquestionably the evidence of power and of a great restless vital force; indeed, it is the expression of an arrogant, conceited people whose ideals are foreign to either the Latin or Anglo-Saxon race. But is it art with that eternal quality that has marked the great epochs of the past? Do we find in modern German architecture that spirit of truth, that quiet, natural expression of an enduring power which is the unconscious possession of true greatness? These attributes are felt among the columns of Karnak, upon the Acropolis, and in the Forum; but what is felt before such gigantic monstrosities as the Bismarck or the Leipzig monument, whose sole claim upon us is their overpowering bulk? . . .”

THE BEAUX ARTS SCHOOL

Returning to France at a time when architecture in England and America, and (for that matter) in France itself, was in a state more “chaotic” than “transitional,” there could be perceived to be growing up a gigantic influence. This influence, condemned on several scores by many critics, was destined to play a tremendous dual part in modern architecture—a part which no intelligent observer can ignore or belittle. It was destined, first, to raise the scattered remains of architectural tradition, Classic and Renaissance, from out of the quicksands of decadence into which they had strayed, and, welding Classic and Renaissance into a definite composite, powerfully and rationally mould the architectural thought of the civilised world.

This great influence was the French *École Nationale des Beaux Arts*, and the style of its architecture can be called neither Classic (though based on many Classic fundamentals) nor Renaissance (though characterised by many Renaissance forms)—but “Beaux Arts,” a type of architectural design of distinct characteristics.

Because the teachings of the Beaux Arts have placed upon all modern architecture a permanent stamp, it is important to possess a distinct grasp of the Beaux Arts idea. The following exposition and a study of the illustrations will enable the architectural observer to perceive wherein Classic forms play an important part, and wherein Renaissance forms play an important part, and will be able, as well, to discern not only the Beaux Arts blending of these two elements, but also the additional traits, devices and inventions peculiar to the school itself.

Beaux Arts architecture is the result not only of a school of thought, but also of certain kind of study. A conception of this is essential at the outset. The students are required to develop their “*projets*” or drawings for imaginary buildings, from the plan, and the plan must, in all cases be symmetrical and laid out on axes. Axis in a plan is the centre-line of any of the important masses of the building. There may be several axes—two of main importance and any number of subsidiary axes. The two principal axes are those running the length of the building and the depth of the building. With these as a starting point, perfect symmetry must result.

Observation of any large building, such as the New York Public Library, will disclose the entire theory of planning on axis, and a grasp of the theory will show that such axial planning possesses the merit of reason

and logic, and guarantees a well-studied relationship not only of the parts of the building itself, but of all its approaches, as well as adjacent buildings.

The central axis, for example, of the front of the building, will be devised to centre on the avenue leading toward it, so that the building will bear a studied relation to its site. This axis will also dictate the layout of the immediate approaches or terraces, the disposition of rows of trees or avenues of statuary. A fountain, or a large group of statuary, would be placed directly on this central axis or would be duplicated for placement on each side. Minor exterior features would be balanced on the minor axes of the façade, and the result would naturally be one of absolute symmetry.

It may be said that symmetry is virtually an essential of all large buildings, architecturally termed "monumental" buildings, and for this reason, modern architecture owes much to the Beaux Arts insistence on axial plans. It must not be supposed that this procedure in planning was originated in the ateliers of the Beaux Arts. Greek, and even Egyptian, architecture was based on ideas of symmetry, and the plan of the Roman Baths of Caracalla was a typical "Beaux Arts" plan, with a perfectly articulated system of axes and subsidiary axes.

The great French school, however, deserves the distinction of having made symmetry an absolute architectural law and the essential requirement of a building in the first stages of its development.

The Beaux Arts has its critics and opponents, and one of the principal faults to which they point in the Beaux Arts teachings is this insistence on symmetry. The contention is that this insistence breeds an "artificial" or "paper" architecture, that, for the sake of

symmetry rather than for expression of the requirements of the building, a Beaux Arts architect must needs add, for example, an entire wing, or devise an unnecessary "East Court" to balance a necessary "West Court" in the plan. This criticism is valid up to a certain point, but it is an interesting fact that the most violent opponents of Beaux Arts architecture have never offered a suggestion for any better or more logical manner of planning large buildings. It is true that axial planning *may* result in an unnecessary and artificial development of a building, but it is equally true that an able graduate of the Beaux Arts is capable of producing a symmetrical plan which is also a logical and economical one. Whatever offences may have been committed by Beaux Arts architectural formulæ, the fact must remain that architecture in general is incalculably the gainer in the great majority of cases. At a time when architectural chaos reigned, the great École stepped in and constituted itself the Law, and established a code of rules in design which have, ever since, beneficially guided the main elements of architectural design.

No architecture, no art, no philosophy or religion which is bigoted, and which aspires to domination and absolutism is a desirable one. A school of architecture should be a fountain-head of inspiration, a court of resort on matters of form and procedure, and may, by reason of the merit of its teachings, widely and permanently mould the thought of many countries, whither return the students to practise who have come to learn.

It cannot fairly be said that the school of the Beaux Arts has sought to dominate. Its aim has been, rather, to inspire and direct, and to implant in the minds of its students an impression of the importance of symmetry.

Beaux Arts detail, of which we shall speak presently, may often be forgotten, or replaced by forms more appropriate to other countries, but the theory of Beaux Arts planning is basic, and underlies the whole structure of architecture. It is a later expression of the Classic Greek ideal of *order*.

Having developed a symmetrical plan, the student perceives, in designing from it the elevation or façade of his building, that this, of necessity, is also symmetrical, and that all the important masses are so related as to balance each other in a manner at once agreeable and logical. Excellent American examples of the Beaux Arts type of façade for monumental buildings are to be seen in New York in such buildings as the Public Library, the Metropolitan Museum, the Customs House, the new Post Office and the Pennsylvania Railroad station (the last named, however, bearing no relation in *style* to Beaux Arts architecture).

Combined with fundamental ideas of Classic order and symmetry, the Beaux Arts school developed, as well, a certain distinct French quality of gaiety and, at times, even frivolity. The style, for this reason, has always seemed admirably suitable for exposition buildings, casinos, music-halls, theatres and similar buildings. A peculiar fault of Beaux Arts architecture has frequently been that of counteracting the dignity of general conception and composition by the introduction of distinctly frivolous detail, so that banks, courthouses or other buildings in which the expression of dignity is essential, have avoided the style, as an unsafe architectural medium. This frivolity of detail, at once an attractive and detractive feature of Beaux Arts architecture, has given the hostile critics another weapon, and one of which they have amply availed themselves.

In detail there will be found, in the Beaux Arts school, an admirable insistence on adherence to Classic proportions for columns and entablatures, and insistence, as well, on such devices as accentuating the base of a building by "rusticating" the stone courses, and accentuating the central part of the building by a massing of extravagant detail to create architectural "interest." Beyond a few such strict rules as these, however, great license in detail has characterised nearly all Beaux Arts architects, often to the serious detriment of their works. Together with many extravagant forms, however, there were developed also many forms of permanent architectural merit.

In style, Beaux Arts detail drew its inspiration from Classic sources, from Renaissance forms, and from certain forms characteristic of the Classic Revival of Louis XVI, and of designers in earlier reigns. A certain gay exuberance and cursive freedom are apparent. Mouldings and all other profiles are very "full." Flat curves and low relief are by no means frequent, and on every façade there is a profusion of cartouches, consoles, garlands, elaborate key-blocks, lions' heads, and, often, naturalistic ornament. Mixed with these may be such forms as the chaste Greek fret ornament, elliptical windows and the refined "guilloche" ornament of Louis XVI, and Classic pediments.

This feature however—the pediment, especially as employed on dormer windows, usually takes sinuous forms, and balustrades or roof lines are a favourite location for sculptured urns, often with a conventional flame.

Ornamental iron work, in the form of grilles and railings, is conspicuous in the Beaux Arts façade, and this is designed in the most cursive and flowing charac-

ter possible. Another characteristic metal embellishment on which French designers of this school have lavished a wealth of fertile ingenuity and graceful detail is the *marquise*, or iron-and-glass hood projecting over a doorway as a rain-shelter on entering.

Architectural sculpture of the Beaux Arts school departed from earlier conceptions of conventionality, and became naturalistic to a degree. The nude gained favour in pediment and spandril treatments, as well as in placements more detached from the actual design. The fountain figures flanking the central portico of the New York Public Library illustrate this modern French concept of architectural sculpture, and are, for that reason, perfectly in keeping with the distinctly "Beaux Arts" character of the building.

Although the School has taught the importance of "scale" among its fundamental precepts, many Beaux Arts students seem to have disregarded it, and exaggerated scale in detail has marred many buildings of this style which might otherwise have possessed distinct merit.

We find then, on summarising, that Beaux Arts architecture begins with the symmetrical plan, laid out on axes, carries this plan out in the elevation, and, while adhering to logical proportions of mass, allows too great freedom in detail. This detail, while derived from sources Classic, Italian and Louis XVI, usually lacks Classic chastity, Italian romance or Louis XVI refinement, yet possesses certain positive architectural qualities eminently appropriate for certain types of buildings.

The type, for example, is not so well suited to the narrow façade of a city residence as the style of the Italian Renaissance. On a large façade, the exagger-

ated peculiarities of Beaux Arts detail are not so apparent, and are overlooked in the magnitude of the larger aspects of a monumental building. Nearly all city house façades, however, in a thorough rendering of the Beaux Arts style, resemble portions of some larger building, sliced off and crowded into a city lot. This is a fault in scale, and, perhaps, one of the greatest faults to be found with the style.

Many leading American architects have studied at the great École Nationale des Beaux Arts in Paris, and have brought back with them the most important parts of its teachings. In most cases, they have made far more use of the larger precepts of planning and composition than of the detail. In the work of certain firms and individuals a distinct process of architectural procedure has been apparent in a close observation of their works. Directly upon their return from the school, and their commencement of practice, they designed buildings which were entirely French and entirely "Beaux Arts" in every detail. Gradually the detail was modified or abandoned, and in some cases the entire outward aspect of Beaux Arts architecture disappeared, leaving only the great deeply-instilled principles of "order," while the "style" changed entirely to Italian or Georgian English character.

That American architects who have studied in Paris are convinced of the real benefits which they derived from the School, is evidenced by their foundation of the American Society of Beaux Arts Architects, who meet periodically to renew in reminiscence the picturesque side of their younger "*atelier*" days in the Latin Quarter, and award scholarships and prizes for student "*projets*" submitted by ambitious architectural draughtsmen from many parts of the country.

Many features of the Beaux Arts idea of teaching form the frame-work of our college courses in architecture, and in such instances as the Massachusetts Institute of Technology and Harvard, French graduates of the Beaux Arts moulded the entire system of thought and instruction. M. Despradelle, so long the great leading spirit of Technology, has been dead several years; M. Duquesne of Harvard directs the teaching in Cambridge to-day.

Evidences of Beaux Arts teaching are widely and prominently distributed, and many buildings which, at first glance, might be thought of directly Classic derivation will be found inseparably to combine, as well, the ever-recurrent and pervasive influence of the Beaux Arts, which is conspicuous, too, in South America, in the more important buildings of Buenos Aires and Mexico City.

The illustrations show examples which have been chosen by reason of their direct expression of Beaux Arts traits.

The two details of the Grand Palais des Champs-Élysées, in Paris, depict admirably certain traits of detail, illustrating the fantasy and disproportionate scale so often met with, as well as a typical introduction of naturalistic sculpture. The "motif" from the main façade shows, again, this fondness for naturalistic, rather than Classic sculpture, as well as the profuse mingling of divers details of divers origins. The elliptical medallion, with garlands, is reminiscent of Louis XVI, though more florid, the grotesque masque recalling, if anything, the Italian Renaissance. Further inspiration from the Italian Renaissance is apparent in the background, yet the whole is typically a product of the Beaux Arts—the Modern School of French Archi-



M. Deglanti, Architect

DETAIL OF A MODERN FRENCH FAÇADE

The frequent introduction of naturalistic sculpture is a conspicuous departure of the modern French school from strict classic precedent



**A DOORWAY ILLUSTRATIVE OF MODERN FRENCH
OR BEAUX-ARTS TENDENCIES**

Here there is apparent the fault of exaggerated "scale," often seen in Beaux-Arts architecture, as well as many other characteristic tendencies

(Details from the Grand Palais des Champs-Élysées, Paris)



Maynicke & Frank, Architects

PARIS IN NEW YORK—A DIRECT FRENCH BEAUX-ARTS INSPIRATION IN THE DESIGN FOR A FIFTH AVENUE SHOP FRONT

The entire treatment, both in general design and in every detail, is essentially in the style called "Modern French"

ecture. The building from which these interesting details are taken—the Grand Palais des Champs-Élysées—was built at the time of the Exposition Universelle, in 1900, and is the work of several collaborating architects.

In this country three thoroughly illustrative examples are shown. The first, the New York Public Library, designed by a firm of American architects of which both members were Beaux Arts students, is an excellent example of the symmetrical façade of the monumental type of building, developed from an axial plan. The entire feeling of this building, in plan, composition and detail, is distinctly of Beaux Arts character, and, perhaps, might be called an example of the better influence of the modern French School. The second, a jeweller's shop (now a *parfumerie*) on Fifth Avenue, New York City, is unequalled as a "condensed" epitome of Modern French architecture, comprising as it does, in such small compass, so many salient Beaux Arts features.

Over the entrance flares a metal and glass marquise, of freedom almost suggesting the contours of an "Art Nouveau" creation. The balcony above, with its sinuous iron rail, is supported on console brackets thoroughly "Beaux Arts," and the centre is marked by the inevitable "cartouche." The characteristic curved pediment springs from two elongated consoles, and above the window is the elliptical medallion so favoured under Louis XVI, though rendered in the modern vein. The treatment behind the pediment, as well as the finial urns on pedestals, shows the same rendering of architectural forms of Louis XVI origin, but the entire façade is thoroughly and entirely "Modern French" in its design, and "Beaux Arts" in its detail. As an indication of the frequent use of Greek forms in this school

of design, combined with forms of the utmost modernity, note should be made of the "egg-and-dart" ornament in the pediment moulding.

The third example comprises in the design of a broad city house façade in New York a profusion of Beaux Arts details, and affords a fair idea of the more undesirable features and qualities of the style. It is true that this façade, despite its many offences against the canons of Classic architecture, gives a certain superficial impression of "smartness" and urbanity. In the florid supports beneath the balcony over the door, there is evidence of the occasional reversion of Modern French architecture to Louis XV Rococo, while the balcony rail immediately above it makes use of the refined "guilloche" motif of Louis XVI. Elsewhere are to be discerned traces of Italian and French Renaissance forms, while the device of breaking the third-story window up into the entablature is illustrative of that fatal license which destroys the merit of many otherwise excellent works of Beaux Arts origin or inspiration. It will be observed that the "French manner" has been followed in the exterior expression of the importance of the rooms on the "*premier étage*," and the rusticated, almost severe base of the building, which blossoms into exuberant festivity above the street level story.

From the foregoing observations on the merits and defects of Beaux Arts architecture, and from a study of the illustrations presented in this connection, it will be possible to discern in many American buildings the important part which the great school has played on this side of the Atlantic, and to more understandingly appreciate the opposition which has been offered to



MODERN FRENCH ARCHITECTURE EXEMPLIFIED IN A NEW YORK CITY HOUSE
A façade which illustrates the merits as well as the faults of modern French architecture, and shows, as well, a great variety of typical architectural forms and Beaux-Arts devices



Carrère & Hastings, Architects

**AN EXAMPLE OF CLASSIC INSPIRATION IN A MONUMENTAL
BUILDING ESSENTIALLY OF BEAUX-ARTS DESIGN**

Columns partly built into a wall, as here, are called "engaged columns"
(The New York Public Library)

Modern French architecture by the exponents of pure Italian styles.

It was said in a previous paragraph that, excepting in the works of the Classic Revival or "American Empire," Classic derivations unmixed with Beaux Arts influences, are rarely met with in American architecture. This, in a measure, is true, though designs of direct Classic inspiration are usually met with in bank buildings, certain libraries and art museums, and in such mausoleums as Grant's Tomb in New York City.

Classic inspiration, it is true, underlies nearly all the monumental buildings in this country, whether the actual rendering follows the character of the Modern French School, or the Renaissance Italian School.

The Classic Ideal in architecture, and Classic forms, have endured many architectural developments, but through the Renaissance, through the Classic Revival and through the Modern French or Beaux Arts School, have always proved to possess qualities greater and more potent than the stylistic movements which have sought to adopt or re-mould them.

And it is safe to predict that Classic forms, through future cycles of architectural evolution, will retain their immortal qualities when other architectural forms have been forgotten, and that "Classic Derivations" will be apparent in the architecture of successive future centuries—for the genius of the ancient Greeks has lost none of its significance in the centuries which have passed since the golden age of Hellenism.

The design of the following chapter is to aid in discerning what part in American architecture has been played by the Byzantine and Romanesque styles, and by that remarkable fabric of the Middle Ages, called the Gothic style.

CHAPTER V
BYZANTINE, ROMANESQUE AND GOTHIC
DERIVATIONS

THE "ROMANESQUE REVIVAL" IN AMERICA. THE PLACE OF
ROMANESQUE STYLES IN THE ARCHITECTURE OF TO-DAY.
GOTHIC DERIVATIONS, ECCLESIASTICAL, COLLEGIATE,
MILITARY AND SECULAR, IN AMERICA

TO group American architectural derivations of Byzantine, Romanesque and Gothic styles, is to establish a trilogy which might be said to be logical only in that these historic types have played but a partial rôle in the stylistic expression of architecture in America.

A brief consideration of the Byzantine and Romanesque styles will recall a past phase of architectural inspiration in this country, but a phase which left a great many important monuments, destined to endure for a long time to come—buildings both ecclesiastical and secular. And in ecclesiastical architecture, the Byzantine and Romanesque styles are distinctly to be reckoned with to-day as an important factor in the inspiration of our church architects.

A brief consideration of the Gothic derivations and adaptations in American architecture will outline the very important part played by that great mediæval style in ecclesiastical architecture, as well as the lesser part it has played in some secular types of building.

The acquaintance formed with Byzantine architecture in the second chapter of this book will recall that it was a style developed by the early Christians, considerably after the fall of Rome (with the temporary



McKim, Mead & White, Architects

ROMANESQUE DERIVATION OF THE ROMAN TYPE
A brick church in New York City, the dome of tile, the pediment figures of terra-cotta, and the shafts of the Roman Corinthian columns of granite



H. H. Richardson, Architect

THE MOST NOTABLE MONUMENT OF "ROMANESQUE REVIVAL" IN AMERICA
Trinity Church, in Boston, Massachusetts, marked a turning point in the architectural thought of the country

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oblivion of Classic architecture) and considerably before the development of the Gothic style. It will be remembered that Byzantine architecture was characterised by the round arch springing from short, clustered columns, that the arches, as well as the basket-shaped capitals of the columns, were treated with carving which was of a curiously primitive, but highly decorative character. Mosaic decoration was largely used, and the dome, not the vault, was the covering of important structures, such as Ste. Sophia in Constantinople, and St. Mark's in Venice.

It will be remembered, further, that Romanesque architecture, developing the vault system of roofing, led directly to the great Gothic style. Romanesque architecture, at its best, was by way of being a hybrid style, a transitional style, and a style never fully developed. It was a style of uneven merit, different parts of the same building often seeming architecturally meagre, ill-studied, barren and stupid, and others, at the same time, architecturally rich, intricate, colourful and interesting.

In considering the development in American architecture which has been called the "Romanesque Revival," one must accept the designation as embracing Byzantine derivations as well, and the "Revival," it is safe to say, might well have permanently and pervasively moulded the character of architectural design in this country, had not a "Renaissance Revival" supplanted it, as will be seen later.

Let us consider the status of "style" in American architecture about 1870. If "style" it could be called, we should be loth, in any event, to call it "American." The influence of the "Classic Revival" of the dawn of that century had died out even before 1836, when

“Colonnade Row” was built in New York City, and inspiration came, for the most part, from the most debased and bourgeois type of contemporary French architecture, or from misguided, unintelligent followers of Ruskin. The first inspiration created such monuments of architectural stupidity and vulgarity as the “brownstone front” type of city residence, dismally familiar to anyone who has traversed the side streets of New York, Brooklyn, or other similar Eastern cities. It created, also, those great country and suburban houses usually alluded to as “mansions”—great square boxes, with a hideously mishandled mansard roof and a “tower” or “cupola,” which, with the whole horrible ensemble, was regarded as an index of wealth and social status.

The Gothic effort, as we have seen in the third chapter, produced architectural aberrations no less dismal, and even more architecturally illogical and structurally dishonest. The country was in dire need of some great architectural revelation—some great architectural light. Ruskin’s “Seven Lamps of Architecture” conspicuously failed to shed even a faint glimmer of light in the Cimmerian darkness in which every hope of clear or intelligent architectural vision seemed to be plunged.

The light which appeared at this juncture came in the person of one of the greatest American architects—H. H. Richardson, great because his architectural vision was clear and intelligent, his architectural intention definite and sincere, his architectural reasoning sound and enlightened.

The great Romanesque Revival which he led became first conspicuous with the publication of his perspective drawing of the splendid tower of Trinity Church in

Boston, which appeared in "The New York Sketch Book of Architecture" in 1874. The church may be considered as the first monument of the Romanesque Revival, and it stands to-day as an expression of American architectural ability of the highest order. It is true that the decade from 1880 to 1890 witnessed the erection of a great many important buildings of architectural inconsistency, not to say architectural insanity, equalled by the structures of no other country or no other period, although the Romanesque idea held its place as a guiding light.

One architect, no matter how great, could not at once mould the architectural thought of so great a country, and the really remarkable thing is that "Richardsonian Romanesque" (as it soon came to be called) exerted such a widespread influence. Richardson demonstrated that the style might successfully be handled as a medium for the design of churches, railroad stations, business buildings, educational buildings and private houses in city and country. He had many imitators and copiers, but a far greater number of sincere and admiring followers, who welcomed the great Romanesque Revival as the dawn of a new and hopeful architectural era.

The late Montgomery Schuyler, architectural critic, writing even in 1891, saw an assimilated and "revised" Romanesque as the future "American Style" of architecture, which, indeed, it then bid fair to become. Mr. Schuyler's contentions, his analysis of the style, were admirably well founded, for he saw possibilities in a Romanesque Revival for the reason that Romanesque was never a "finished" style, in the sense that the Classic or Gothic styles were finished. Gothic architecture supplanted Romanesque architecture

before the latter had reached its complete stylistic development, so that no "perfect examples" exist to represent Romanesque architecture, as the Parthenon represents Classic, or the great French cathedrals represent Gothic. It seemed, then, as though we might take Romanesque architecture at the point where it was interrupted, and, revitalising it, develop it into a Nineteenth Century American style. Mr. Schuyler wrote (in 1891):

"It will be seen . . . that Romanesque architecture, in the Norman, the German and the Provençal phases of it, constitutes an architectural language that is applicable to all our needs, for there is no mode of building, from the ecclesiastical to the domestic, in which we have not already successful examples to show, and in which we may not hope for still more signal successes in the future. It has not been conventionalised or formalised so as no longer to be expressive, but is still free and flexible, and it affords ample opportunity for a designer to manifest his scholarship and his individuality, if he have any. So much cannot be said of any previous style that has come so near to establishing itself. It is to be hoped that our designers may be content to develop its resources and not be tempted to abandon it, as so many promising beginnings have been abandoned in the history of modern architecture, through an unlucky or disastrous caprice."

The critic's estimate of the destiny of the Romanesque Revival in America is peculiarly interesting, and bears evidence of the futility of architectural prophecies. Mr. Schuyler did not reckon on the impact of two other, and evidently more powerful, architectural influences which made their effect apparent within so few years after this piece of writing—the great Renaissance

Revival, championed by McKim, Mead and White, and the great French-Classic influence emanating from the *École des Beaux Arts* in Paris.

Perhaps the greatest legacy of Richardson to American architecture was his demonstration of the fact that architectural sanity in this country lies only in a sincere, intelligent and scholarly adherence to a worthy historic style, be that style what it may. Richardson taught the architects of his time, as well as the discriminating public, that architectural precedent is safer, and more productive of desirable results, than architectural experiment.

And in doing this, he left behind him a splendid record of architectural achievement in the buildings which he designed. Conspicuous among these are Trinity Church in Boston, Sever Hall and Austin Hall in Cambridge, the Pittsburgh Court House, the Cincinnati Chamber of Commerce and a great many permanently pleasing residences and railroad stations, especially through the New England States.

While the works of many of Richardson's followers were admirably sincere and were perfectly legitimate expressions of a dominant architectural idea, the works of most of those who imitated him merely as an opportune expedient were ill-studied, and not only worthless in themselves, but tended to discredit the real and higher aims of the Romanesque Revival.

The architectural observer will recognise the buildings of this interesting period in American architecture because buildings of the Richardsonian Revival bear an unmistakable stamp. Usually of stone, their proportions are massive and often heavy. The cavernous entrances are spanned by great semi-circular arches, and the composition is usually dominated by a sturdy tower

with pointed roof. The carved detail may vary in the merit with which the Byzantine or Romanesque rendering of the acanthus leaf, or grotesque heads, may be carried out. In masonry, the stones were each hewn with the rough, chipped treatment which classifies such masonry as "rock-faced."

In the Richardson Romanesque buildings of brick, we often find that the bricks have been moulded to resemble "rock-faced" stone, and, as in Sever Hall at Harvard University, there is an abundance of specially moulded brick for cornices, string-courses, mullions and other details, with foliated capitals in unglazed terra-cotta.

The decline of Byzantine and Romanesque ideas as the dominating trend of architectural thought in this country, and the rise of the Latin derivations, Italian and French, is the logical subject for another chapter. It remains only to point out to what extent we have still to reckon with Romanesque derivations in America, before passing on to the study of our modern Gothic derivations in this chapter.

Although the Romanesque Revival of 1871-1891 was not destined to mould the entire subsequent character of American architecture, the style possesses such admirable qualities for expression in ecclesiastical architecture that it has been the inspiration of a great many distinctly successful church buildings, and will, without doubt, continue always to occupy a prominent place, in this capacity, of importance nearly equal to that of the Gothic style.

To cite a few examples which are conspicuous not only for their scholarly yet imaginative rendering of the Byzantine and Romanesque style but for their architectural merit regardless of this consideration,

the observer may profitably study several churches in New York and its vicinity. Particular attention is directed toward the Madison Square Presbyterian Church, under the shadow of the great Metropolitan tower, and to the chapel of Columbia University. Another admirable derivation is seen in the Church of St. Joseph at Babylon, Long Island, and again, to transport ourselves in a moment to the Pacific Coast, in the First Church of Christ Scientist, in Los Angeles, California.

In that the Byzantine and Romanesque churches of the early Christians in Rome represented the ideals of a distinctly simple kind of religious thought, adaptations of Byzantine and Romanesque styles may come to be regarded as an architectural expression peculiarly suitable for the church edifices of the more radical Protestant sects, while the Gothic style effects an architectural expression ranging through various degrees of Episcopal "high church" to the Roman church itself.

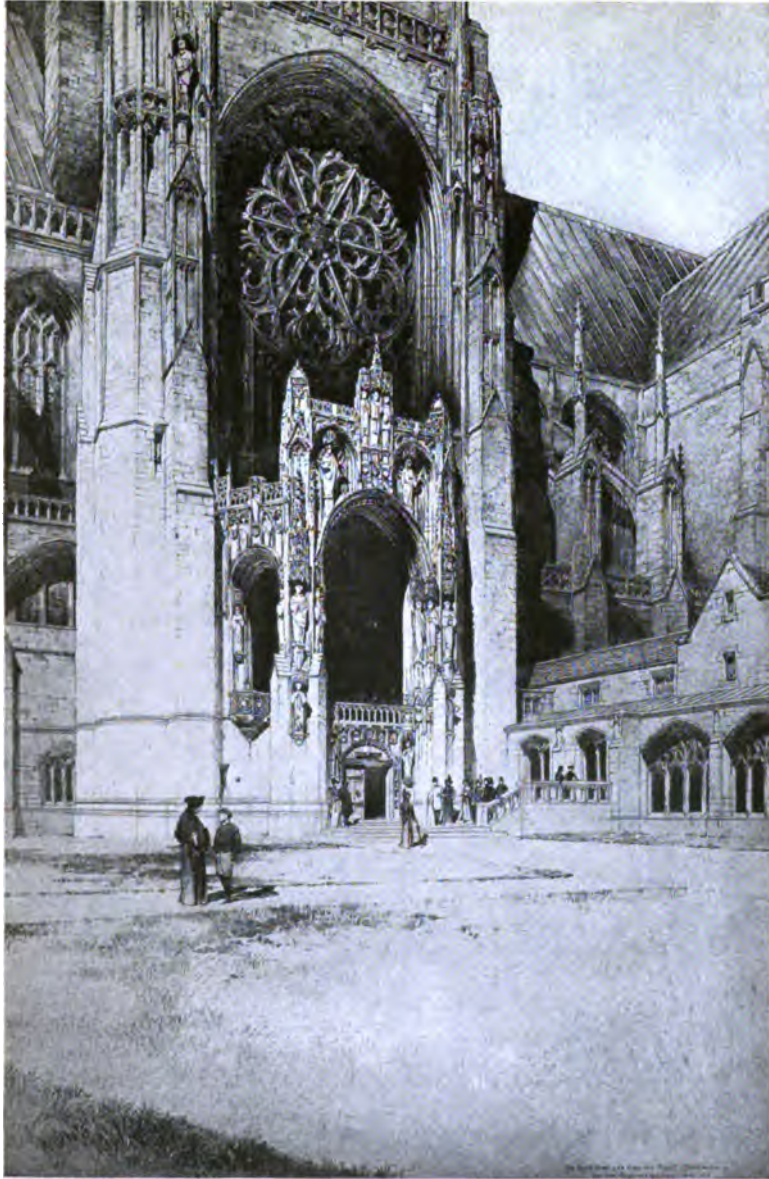
Romanesque architecture was once considered peculiarly adaptable for the design of modern office buildings, but the development of this essentially American type has grown further and further away from any Romanesque possibilities of treatment. When walls were of stone, and the floors of steel beams, and the height of the building not more than eight or ten stories, the style was adaptable. It became impossible, however, when the structure of the building was entirely of steel, and the proportion of voids (window openings) overbalanced, in relation, the solids (wall spaces). Romanesque architecture was of a massive, heavy character, and, from its nature, could not be made to conform with this skeleton steel frame, or to soar upward to twenty, twenty-five, thirty, forty stories or more.

And for the private house the style became "old fashioned," newer adaptations were in vogue, and despite their marked architectural interest, the old Richardsonian Romanesque country houses seemed dark, dismal and "heavy" beside newer creations adapted from Italian villas and French châteaux, or in variations of English styles.

The Gothic style, however, survived the distaste which it created in the so-called "Gothic Revival" immediately preceding the Romanesque Revival, and established itself as a permanent inspiration and source of derivation for various types of American buildings. Thus we find in the current architecture of this country Gothic derivations which may be called, for convenience, "Ecclesiastical," "Collegiate," "Military," and "Commercial"—the designations referring in part to the several varying renderings of the style, and in part to the types of building in which these renderings appear.

It is natural that by far the greatest part of Gothic inspiration and Gothic derivation in American architecture is to be found in church and cathedral buildings and while the greater proportion of these lack the true spirit of the Gothic style, the meritorious minority offers a peculiarly interesting field for observation and study.

The explanation of the failure of the greater proportion of our Gothic churches lies in the circumstance that their architects have failed to consider the *organic* nature of Gothic architecture, have failed to recognise its similarity to a tree. A tree grows out of a seed, putting forth branches as it comes into its growth, and these put forth leaves. Different varieties of trees have different ways of growing, each way characteristic



Cram, Goodhue & Ferguson, Architects

From a drawing by Bertram G. Goodhue

A SPLENDID MODERN CONCEPTION IN THE GOTHIC STYLE

Two salient points should be noted here—the remarkable “upward motion,” and the excellent relation of detail to mass

(Porch of the proposed Baltimore Cathedral)



Cram, Goodhue & Ferguson, Architects

Photograph by Julian Buckley

A STRONG MODERN VERSION OF THE GOTHIC CHURCH

**A fine rendering of the massive irregularity which characterises a certain type of Gothic design
(St. Thomas' Church, New York City)**

of a species, and some, like wind-bent cedars by the open seashore, may take on forms which seem curious and grotesque, although the result of special conditions.

And so a Gothic church of the Thirteenth or Fourteenth Century grew, organically, gaining size and branching out in chapels or cloisters in various directions as the growth progressed, each addition springing naturally and spontaneously from the main stem of the Gothic idea. The Gothic church itself, its massive buttresses rising to take the thrust of the side-aisle arches, and flying buttresses springing upward above these to take the thrust of the great nave arches, was like an organic growth, its many members created by structural necessities—exactly as a branch has greatest girth next the trunk to take the greater strain at this point.

It is doubtful if anyone but a Japanese artist would attempt to construct an actual copy of a tree—but if such an interesting hypothetical undertaking were to be tried, no one engaged in it would dream that any structural or organic features of the “design” of the tree could be improved upon, or that a pine bough would look well growing from a maple tree. Regardless of its appearance, the designer would at least feel that the introduction of the pine branch would destroy the botanical resemblance of his work to a maple tree.

It is a curious fact, however, that very few architects, in relation to the great numbers who have essayed Gothic adaptations, indulge their thoughts in such a profitable simile. The result is that they have produced illogical (and hence *unconvincing*) Gothic edifices—buildings adorned with buttresses which abut no arches, with wings not related to any natural expression of the growth of the building—in fine a hybrid

structure. They have copied Gothic *forms* without understanding or experiencing Gothic *feeling*.

And here it is important to point out the reason why Gothic architecture is a peculiarly exacting style to adapt to-day, as compared with Classic or Renaissance architecture. The very life of Gothic architecture is dependent upon the degree of real and understanding *feeling* which has entered into its contrivance, irrespective of the comparatively superficial *forms* which are the *material media* of its expression. In Classic or Renaissance architecture, on the other hand, the importance of certain material forms outweighs the degree of feeling necessary to intelligently manipulate and render these forms. In this way, to design *in* the Gothic style is a very different matter from designing *with* the Gothic style. The first kind of design has produced a number of remarkable latter-day expressions of Gothic architecture: the second has produced a far greater number of misexpressions of Gothic architecture.

Certain carefully considered thoughts on the symbolic values of the Gothic style in the expressive design of church edifices appeared in a paper contributed by the writer to "The Churchman" magazine of March 21, 1914, entitled "Symbolism in Modern Church Architecture," here quoted:

"It is doubtful if sufficient emphasis has ever been made of the fact that architecture, of all the arts, is the most expressive vehicle for symbolism. Possibly the reason for this lack of recognition of the symbolic values of architecture lies in the fact that very few architects have appreciated it. When the training and practice of the average architect of to-day is taken into consideration, this is not so greatly to be wondered at,

for in the first instance he has become versed, by necessity, in material forms, and in the second finds himself, at the outset of his practice, one of the world's workers in an age of which the æsthetic or spiritual ideals rarely rise above literal materialism at their highest level, even when they stop short of absolute commercialism at their lowest level.

“Broadly defining symbolism, before proceeding with its expression in current architectural achievements, it may be said that there are two kinds. First one is impelled, by instinct, to think of literal symbols, which are of comparatively little importance—to adorn a shrine of St. Matthias with the axe, or of St. Paul with a sword—to carve about a doorway the winged man, the winged lion, the winged ox and the eagle of the four evangelists.

“This, to be sure, is one sort of symbolism, but the sort which requires only erudition to master, and into a knowledge of which art enters not at all. Perhaps many of our ecclesiastical edifices do not show enough of this sort of symbolism, but it is not upon such considerations that their significance to-day or for posterity will depend.

“The fundamentally important symbolism to be desired in church architecture is of a broader kind, and involves a basic understanding of the difference between the spiritual and the material. Many architects have gone about their work in designing a church by assembling in their minds only a collection of material forms, and this they have generally done to such an extent that there has been left no room for the consideration of things spiritual.

“Obviously no other type of building calls into play the necessity for expression of the spiritual as opposed

to the material in architectural design to so great a degree as the church edifice, and it is therefore the more to be deplored that so few latter-day architects have failed to grasp the futility of seeking such architectural expression by means of form without feeling.

“A meaningless assemblage of pointed arches, crockets, Gothic tracery and stained glass windows, which are architectural forms, or tools, will not produce a well-designed church edifice with true architectural meaning any more than a meaningless assemblage of words, which are also forms, or tools, will produce a piece of literature with true literary value. In none of the arts can expression signify anything of consequence unless the tools of that art have been directed by thought, which is the spiritual element, to the end that the finished fabric will express thought. No painting was great by technique alone, no literary masterpiece by virtue of the words contained in it; or any architectural monument solely by reason of the accuracy in the material form of its several parts. There is a careful stupidity which believes accuracy to be art, and even accepting architecture in its real meaning *as* an art, believes that careful adherence to material forms will bring the required expression of an idea. One architect may conscientiously develop an architectural project from some work of the past, and entirely fail to produce in execution a design even creditable. Another, governed by exactly the same inspiration, may produce a masterpiece. The more deeply the student goes into the study of architecture as a fine art, the more baffled he is likely to become, until he realises the parts actually played by the material and the spiritual. Gradually there become apparent certain large architectural truths, and suddenly it is very clear why

some architectural achievements are great and lasting and others are trivial and transient. Forms alone cannot be assembled to produce the highest architectural expression unless there is brought to such an assemblage that quality known as art.

“As a corollary to the last, it must be brought out with emphasis that art is above all an abstract entity, of a nature entirely spiritual and not at all material.

“But what of *form*? What part, if any, does it take in the production of a work of art? Certainly it is to be taken into consideration, but not before the much more important broad understanding of the opposed values of the spiritual and the material. And this discussion must proceed to a logical and accepted conclusion before it is possible to discuss symbolism in architecture, for the reason that the expression of symbolism is only to be found in a work of art. It is therefore necessary, in orderly succession, to take cognizance of the fact that architecture is an art, to appreciate the meaning of art as an abstract entity, and to reach the obvious conclusion that only such architecture as is conceived in the highest tenets of true art is capable of becoming a vehicle for symbolism.

“The question of the place of material ‘form’ is worthy of a brief discussion, in which the most salient point to be made is its relative importance in comparison with other considerations. In speaking specifically of architecture, added testimony toward establishing the truth about “form” is to be had in stating that one speaks not only of architecture, but of art in its several manifestations; for in the creation of a masterpiece, the painter has his technique, the writer his words, and the architect his architectural forms. These things are common, in the intent of their use, to all the arts,

but we should never lose sight of the basic truth that these are nothing but tools. One does not become a carpenter by virtue of slinging a tool bag over his shoulder, or a great writer by virtue of mastering the dictionary.

“Great architects have been only those men who have acquired a knowledge of material forms, remembering the while that these were but tools, and who have regarded the use or manipulation of these forms not as the end of their endeavour but only as a part of the means. And the other part of the means necessary to the end or attainment of architectural expression, they will have realised to be that essentially spiritual quality which is called art, or that essentially artistic quality which is called spiritualism.

“It is, then, only in such an example of architecture as may be regarded as a work of art that we may expect to find an expression of symbolism, and in consideration of the tremendous spiritual idea which it is required to bring out in church architecture, it is not altogether surprising that such symbolism is lacking in most of the modern church edifices of this country.

“There is required symbolic expression of a fabric of ideas of such magnitude that nothing short of the highest degree of architectural imagination can even conceive it, or the highest degree of architectural ability achieve it. There are to be expressed ideas as broad and deep and far-reaching as religion itself, some ideas of mystery, some intent to create by architectural means a sense of awe and to stimulate those thoughts in the human mind which are the most noble and the most superhuman—ideals at once exalting and humbling. This is the symbolism which is the first architectural essential in the design of a church, obviously of far

greater importance than such symbolism as might be called ecclesiastical heraldry, the attributes of saints and the insignia of material theology.

“And because the master builders of the great European cathedrals achieved a tangible expression of the real symbolism of church architecture, an expression the vitality of which has not been impaired, but rather heightened, by time, many latter-day architects have been so limited in vision and understanding as to imagine that by copying the forms which they saw in the works of these master church-builders they must achieve the desired result.

“An appreciation of such architectural truths as have been thus far set forth here will go far toward understanding not only the failure in architectural significance of much of our church design, but the reason for the lasting values of such examples as would seem to have resulted from such an appreciation.”

From these thoughts it will be apparent that architectural sincerity and architectural understanding are essential in designing any worthy adaptation of the Gothic style, and from this view-point it will not be difficult to discern, in any effort to determine the merits of a church building, not only its degree of success or failure in stylistic rendering, but the real architectural reasons underlying either.

American architecture affords a smaller number of examples of Gothic derivations in scholastic or collegiate buildings than in ecclesiastical buildings, yet offers occasion for a few comments in this connection.

In the use of the Gothic style in the buildings of a school or a college, the greatest success attending the effort will be found to come from the extent to which the finished design is unecclesiastical, yet expressive

of Gothic Mediævalism. Nor is the performance of this feat of design a whit more easy than it sounds. Virtually every Gothic form is characteristic, through association, with church edifices, and only an exceptionally skilful architectural contrivance of these forms will result in anything but a compromise—a building which suggests neither a well-designed church nor an expressively designed educational building.

Success in the undertaking, however, amply repays the architectural effort involved, and proclaims the architectural ability of the designer, if one were to cite only such conspicuous instances as the impressive group of buildings for the College of the City of New York, or the scholarly group of buildings for the Graduate College of Princeton University. The most adaptable and the most expressive Gothic derivation for scholastic and collegiate architecture will be found in the transitional style which combines Tudor Gothic forms, and Early English Renaissance forms—the style of the collegiate architecture of Oxford and Cambridge.

American adaptations of this style have been carried out with conspicuous success at Princeton University, the University of Pennsylvania, Bryn Mawr College and St. Louis University, as well as in many buildings for private and public schools throughout the country. Few European derivations have been more felicitously employed by American architects than this “transitional” English style as applied to educational buildings, and although such derivations might more properly be considered in connection with our architectural debt to England, there is a sufficient Gothic element to allow of this brief reminder.

In speaking of “Military Gothic,” one speaks, perhaps, of a version of the style exemplified in but one



Cram, Goodhue & Ferguson, Architects. (R. A. C.)

A GOTHIC ARCH FROM THE GRADUATE SCHOOL OF PRINCETON UNIVERSITY
There is apparent here a mingling of ecclesiastical and scholastic Gothic. The shields are English in character, the "flames" along the arch are "flamboyant" French. Grotesques have been used as corbels, and to terminate the outer moulding of the arch



A MODERN DERIVATION OF THE GOTHIC GROTESQUE
An illustration of the symbolic possibilities of the Gothic grotesque



Cram, Goodhue & Ferguson, Architects. (R. A. C.)

GOTHIC RIB-VAULTING IN A MODERN AMERICAN BUILDING
Gothic derivation handled in a manner at once scholarly and free
(The Graduate School of Princeton University)

group of American buildings—yet this group represents such a splendid and remarkable architectural achievement that its significance could not be overlooked in the works of any period or any nationality.

In this specific sense, the term "Military Gothic" is to be regarded as applying to the buildings of the United States Military Academy at West Point, on the Hudson River—in a more general sense it is to be regarded as applying to the massive, rugged, fortress-like type of Gothic architecture called Norman Gothic. A paragraphic study of the buildings at West Point will serve to make clear the architectural qualities to be understood by the term "Military Gothic," so that any less specific considerations may be regarded as unnecessary.

It is apparent that the idea of military architecture immediately conveys some thought of a fortress or a castle, of a place to be defended. From time immemorial man has availed himself of nature's aid in building any kind of defense by selecting as a site some inaccessible crag like Tintagel, some natural eminence which must offer to an enemy as great a difficulty of approach as possible. One does not conceive of a fortress built on a plain, or in a valley. And so, regardless of any actual necessity, or even contingency of military defense, our thoughts of a military edifice picture first a considerable natural height as the location for such a building.

In this particular of mental association, the site of the group at West Point is at once logical and appropriate, the massive buildings crowning the steep bank of the Hudson River with an impressive bulk of sturdy masonry. Whereas Ecclesiastica! Gothic architecture is at its best in the achievement of delicate lightness

and attenuation, Military Gothic is obviously at its best in the achievement of tremendous weight and condensation of form. In this architectural quality the buildings at West Point are manifestly successful. They are, furthermore, of significant interest to the student as a group-study as well as an individual building study, for the work was won in competition largely because it was so apparent, even to a committee of un-architectural judges, that here was a tremendous and expressive architectural idea, a dominant architectural purpose in the vision of the designers. In this, incidentally, lies the difference between a mere building and a work of architecture—the first lacking purpose, and consequently failing in expression; the second being the result of a definite and intelligent architectural intention.

These observations on Gothic derivations in American architecture may be concluded by a few comments on "Commercial Gothic," and on the difficulty of creating, or re-creating in this country a "Domestic Gothic." The term "Commercial Gothic" is, from the very natures of the commercial idea and the Gothic idea, a paradoxical term, yet one which most aptly applies to certain of our architectural essays. Much architecture, indeed, is paradoxical in theory, not only in this country but in certain historic periods in Europe, and it is this fact which, to some extent, makes such a term as "Commercial Gothic" an apt and accurate one, in fact, while it may well be criticised as a paradoxical one on paper.

It is to be submitted, however, that the variance between ideas suggested by "Commercial" and ideas suggested by "Gothic" is a variance rather in the realm of thought than between the actual architectural



Cope & Stewardson, Architects

AN AMERICAN DERIVATION FROM ENGLISH SCHOLASTIC ARCHITECTURE
The buildings of the old Colleges of Oxford and Cambridge in England show the transition from Gothic to Renaissance feeling. The peculiar dignity and charm of this style have been admirably rendered here

(The Provost's Tower, University of Pennsylvania)



Cram, Goodhue & Ferguson, Architects

Photograph by Julian Buckley

"MILITARY GOTHIC"

**A rugged and imposing version of the great ecclesiastical style
(The Chapel of the West Point Military Academy)**

requirements of our modern office buildings and the degree to which the Gothic style may be applied to them. A Gothic "derivation," however, is the most that may be claimed, for the reason that a steel building structurally dispenses with the Gothic essentials of vaulting, pointed arches and buttresses. Structurally a modern steel building possesses no point in common with any Gothic building. Superficially, however, a striking affinity becomes apparent at once.

The modern steel building is "perpendicular" in form; it springs from a far smaller ground area than any Gothic church, and towers to greater heights. The perpendicular "movement" of its lines is essential, and for this the Gothic style offers a direct external expression. Furthermore, by reason of the comparative slenderness of the steel skeleton, and the desirability of devising well-lighted offices, a predominant proportion of void to solid is called for in the design. Here, again, the Gothic style offers an architectural solution, with its tall, slender, vertical members, and its absence of solid wall spaces. The Gothic style is adaptable for the external, or superficial, expression of the modern steel building for exactly the same reasons that the Romanesque style, considered earlier, proved not to be adaptable.

Thus, despite the absolute incompatibility of the purposes and ideas of a modern office building and the purposes and ideas of a Gothic church, and despite the obvious structural differences existing between them, there is, nevertheless, an adequate sanction for Gothic derivations in the modern tall buildings of to-day.

It is not intended to imply that the Gothic style offers the only solution of the problem, and others are alluded to in the ninth chapter. It is intended

rather to bring out the thought that there is nothing stylistically illogical or unpermissible in the employment of Gothic derivations in matters of form.

The difference in purpose and idea existing between the prototype and its modern derivation is, after all, chiefly a difference which might be called "literary," or "mental." Instinctively the mind is disturbed by thoughts of a bank of swift elevators, rushing busy stock-brokers up and down the towers of Nôtre Dame Cathedral, or of high mass being chanted in the corridor of an office building on lower Broadway in New York. Dismissing these purely associative thoughts, it is possible to form some impartial architectural conclusion. It is true that associative thoughts should be reckoned as a powerful factor in architectural design—yet, if the Gothic builders of the Middle Ages had been confronted with the necessity of erecting towering office buildings, would they not have made the most of their "perpendicular" style? Since we admittedly borrow architectural styles, may we not, with propriety, borrow those most adaptable to given kinds of buildings?

Modern architectural adaptations of the Gothic style for commercial buildings have been attended by conspicuous success in a number of instances, such as the Trinity Building, the United States Realty Building, the Times Building, numerous tall apartment houses in New York City, and, towering above all of these, both in actual size and in the success of its Gothic derivation—the great Woolworth Building.

It may truthfully be said that a pause to study this will repay the student or lay observer of architecture in several ways. There is apparent, first, a great architectural intention in this building. The magnitude and



Cass Gilbert, Architect

Photograph by R. Tebbs

A REMARKABLE PIECE OF ARCHITECTURAL DESIGN, IN WHICH THE MEDIEVAL GOTHIC STYLE HAS BEEN ADAPTED FOR A MODERN OFFICE BUILDING, WITH A TRANSLATION OF MATERIAL AND A VASTLY MAGNIFIED SCALE

(The Woolworth Building, New York City)



Case Gilbert, Architect

Detail of "canopy" at twenty-seventh story
Detail of windows and gargoyle at twenty-seventh story

Detail of flying buttress at forty-second story
Detail of roof and parapet at twenty-eighth story

THE WOOLWORTH BUILDING, NEW YORK CITY

dignity, even the nobility, of this intention has raised it far above the highest plane usually attained by the "commercial," and has created an edifice which entirely merits the characterisation of a visiting Englishman—"a Cathedral of Commerce." In this respect, then, the Woolworth Building is to be regarded as an architectural achievement of the higher order.

In the matter of its execution, a clear idea of its architectural significance will come from a consideration of certain elements in its design—elements of mass, light and shade, material, scale, and stylistic derivation.

Taking these elements in succession, it may be said that the mass is successfully handled—a matter of vital importance in a structure of such colossal size. The tower bears a seemly and logical relationship to the body of the building, whether viewed from the front or the rear, and it diminishes in girth at the right height above the roof. The abutting gables at the base of the tower effect an agreeable transition from the roof of the sub-structure—gables which, small as they appear in relation to the entire building, are equal in size to the average city shop or house-front. In the manipulation of light and shade, the designer displayed rare architectural ingenuity by utilising the "canopy" motif at three levels of the structure, and these serve, by the shadow they cast, to effect three horizontal divisions without any conflict with the perpendicular "movement" of the whole design. Anything resembling a cornice could not possibly be introduced in a Gothic design, under any pretext, yet it was necessary to break, in some way, the monotony and even ocular displeasure which would have resulted from sheer perpendiculars of such tremendous height.

In the matter of material, a skilful architectural

“translation” was necessary. Gothic architecture was essentially an architecture of stone, in the matter of exteriors, whereas the Woolworth Building, above the third story, is of glazed terra-cotta. Forms, then, which were created from a solid material by hammer and chisel, were contrived here from a plastic material by means of modelling. That so essential a difference in material and method of production could be so honestly and successfully overcome is a significant point not only in architectural “derivation,” but in architectural “translation.”

Perhaps no architectural consideration involved in the study of the Woolworth Building brings out so important an element of design as the consideration of the *scale* of its detail. Nor could a more graphic illustration of the importance of scale in architecture be offered.

The details of the Woolworth Building are to be seen from two widely different stations—from the street, where they are elevated several hundred feet in the air, and at close range, from the several galleries such as the gallery at the forty-second story. It was necessary, then, to contrive forms which should bear a relation as scholarly as possible with historic precedent, and to contrive these forms with such subtlety that they would have telling effect from the street, far below, and at the same time would not appear crude and monstrous when seen at their own level.

To design “in scale,” as understood in this connection, is not merely to magnify, merely to increase diameters and thicknesses. Such a process would result only in the creation of the architecture of a nightmare. Suffice it to say that the process here was one of consummate subtlety, practised under peculiarly exacting

conditions. The scale of the cornice of a five-story building is a matter meriting no less attention, or a matter no less involved in the success of the architectural design, but the problem is by no means so difficult.

In the matter of stylistic derivation the Woolworth Building is conspicuously successful. Essentially characteristic Gothic forms have been used, and in a manner which declares they have been frankly used for their "pictorial" rather than their structural values. No structural need of a steel building (unless wind-bracing) is served by a flying buttress, yet their introduction at the forty-second story is at once graceful and effective. The picturesque interest of Gothic detail was given expression by the use of gargoyles and grotesque animal forms, far up among the traceried heights of the great building—invisible from the street level below, but irresistibly interesting in chance glimpses from windows or galleries. The quaint architectural pleasantry of the grotesque has been used, also, in the detailing of the lobby, where sculptured stone corbels under the ceiling beams will preserve for posterity admirable caricature portraits of the owner, the architect, the master-builder and others prominently identified with the erection of this remarkable building.

Detailed consideration has been indulged in with reference to the Woolworth Building for the reason that, besides being one of the most noteworthy of American buildings, its design (in both intention and form) illustrates many architectural points of peculiar value to the lay student.

It remains now to comment briefly on the difficulty of expressing modern domesticity in the Gothic style, especially in the exterior aspect of a dwelling. Several

intangible, yet potent, factors militate against its acceptance, one, perhaps, a distasteful recollection of the dismal and stupid monstrosities of the inept Ruskinian "Gothic Revival," another, the constant associative mental connection of Gothic forms with ecclesiastical buildings.

Some residential interiors of Gothic design have been conspicuously interesting and successful, a few clubs have been agreeably rendered in the Gothic style—but these are exceptions. Lack of familiar precedent has had its effect on associative thought. The fine Mediæval Gothic residence (excepting in a few cities) was the castle. There was no well-to-do "middle class," and the dwelling of the serf or peasant was a rude affair, by no means attractive as a basis for derivation. Social conditions were too widely dissimilar from those of to-day: manners, customs and modes of living bore no less variance, so that, from the architectural point of view, numerous vast and costly "Mediæval Derivations" in the way of Twentieth Century American "castles" have been lacking in expression, even when they have possessed a certain quasi-romantic or even picturesque interest. The chasm between the Middle Ages in Europe and the present day in America is too wide to bridge with an architectural derivation.

The idea of the church has remained sufficiently similar, as also the idea of a fortress implied in "Military Gothic." The fact that commercial architecture is impersonal, holding no analogy with the past, and claiming no intimate contact with our individual lives in the present, makes Gothic derivations in form acceptable.

The dwelling, however, has undergone too many changes, has moulded itself, and been moulded, too

closely to our personal desires, preferences, needs and uses to revert in type to its primitive Mediæval form. This truth will become increasingly apparent upon consideration, and in the subsequent study of English country houses and Italian villas, which, from their more developed nature, offer a more direct opportunity for derivative architectural expression.

The following chapter is designed to outline the evolution of the English country house, from its earlier forms to the modern type, with correlated American derivations.

CHAPTER VI

ENGLISH DERIVATIONS, EARLY AND MODERN THE IMPORTANCE, CAUSES AND MEANING OF ENGLISH INFLUENCES ON AMERICAN ARCHITECTURE. THE ANGLO- AMERICAN COUNTRY HOUSE. THE ADAPTABILITY OF ENGLISH COLLEGIATE ARCHITECTURE

NO person in the least familiar with the development of architecture in this country can fail to accord to England its great share in the trend of our architectural thought.

English derivations are, perhaps, most conspicuous in our domestic country architecture, and to a lesser degree in some other types of building. The expression of Renaissance architecture, which became established in England under the Georges, and which was transplanted to this country as "Georgian Colonial" is more fully dealt with in a subsequent chapter on "American Architecture."

Our present observations are directed more closely to the English country house, early and modern, and to its influence on our own country house architecture. The preceding chapter laid emphasis on the English derivation of that "transitional" style of blended Gothic and Renaissance forms called "Collegiate" architecture. English monumental buildings have influenced American architects but little, largely because of the stronger counter-influence of the Beaux Arts school in France.

It is by no means unnatural that we have turned toward England for inspiration in designing the country house, and there are at least two strong unarchitectural reasons for this.

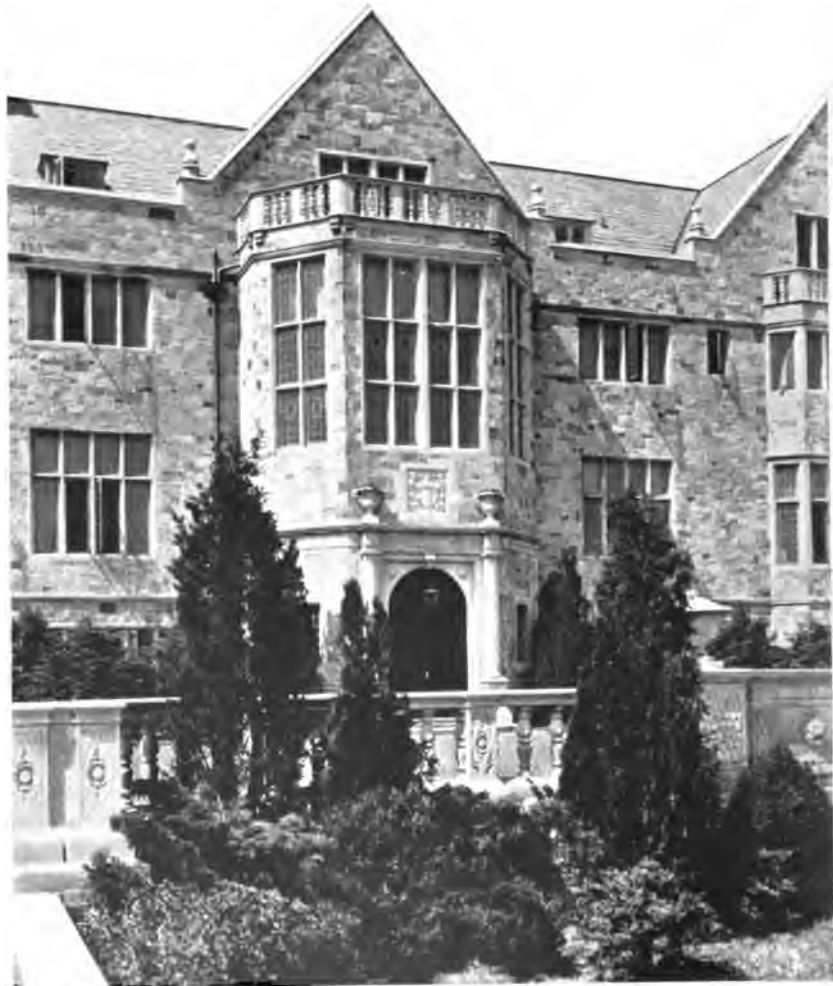


Trowbridge & Ackerman, Architects

ENGLISH DERIVATION IN AN AMERICAN COUNTRY HOUSE

**The type of large English country house, characteristic of the Renaissance, adapted with a high degree of architectural skill and ability
(A residence at Glen Cove, Long Island)**

Photograph by Julian Beckley



Trowbridge & Ackerman, Architects

ENGLISH DERIVATION IN AN AMERICAN COUNTRY HOUSE
A forceful and remarkably accurate rendering of the domestic architecture of the English
Renaissance
(A residence at Glen Cove, Long Island)

It must not be forgotten that our family ties with the English people are very strong—we are of the Anglo-Saxon race, and even the constant admixture of other strains has not materially modified the dominant characteristics of our English forefathers. Things English could never be “alien” to us, nor can we ever be “alien” to the English people.

It is equally important to remember that the English may be said to have invented the very idea of “country life,” and to have enriched the idea in a way unlike any other European nation. Our own best ideas in connection with country life, indeed, are based on good English precedent and it is hard to conceive of any amount of evolution which could un-Anglicise us in this hereditary conception.

The English, then, having originated the idea of “country life,” as we understand it to-day, naturally developed a suitable kind of country dwelling, the history of which is essential to the proper understanding of its characteristics and the proper appreciation of its peculiar charm. And since the English idea of country life is the idea on which our own country life is based, the development of domestic architecture is best followed in the English country house. The idea of country life in Italy and in France has always differed considerably from the English idea, and consequently from the American idea. German country life, and the large German country houses, after the Mediæval castles were antiquated, were largely patterned after the French, if one were to cite only such conspicuous examples as the castle and gardens of “Sans Souci” (the name itself being French) devised by Frederick the Great, or the vast estate of Prince Pückler von Muskau, in Silesia.

The English country house, however, has been a continuous and logical growth, from its earliest times to the present, and many of its salient features have been incorporated in the American country house. The English evolution has gone successively through the "Keep," the "Hall" and the "Manor," until it reached its present form, the "country house," and its changes have all been in the direction of attaining greater comfort, greater privacy and greater attraction.

The "Keep" was a fortress-like affair of feudal times. Its walls were thick and had a few small, unglazed windows. It was surrounded by no gracious gardens, but a deep moat and a drawbridge isolated it from visit or attack. Here, from motives of protection rather than sociability, the lord's retainers dwelt with him in this dungeon-like abode. There were private rooms for the lord and his lady, but these were sparsely and uncomfortably furnished. Life in the "Keep" centred in the "great hall" (the prototype of our modern "living-room") and this great common assembly and eating-room gave the name to the type of English dwelling immediately succeeding it—the "Hall."

The "Hall," a name preserved in such places as Hardwick Hall, Haddon Hall, Moreton Hall and the like, was a more seemly dwelling than the forbidding "Keep," and became the type of country house immediately preceding the Elizabethan development. Comfort and elegance became more apparent considerations than defense, and some attempts were made at architectural gardening. In later Jacobean country seats, at the time when all English architects turned their eyes toward Renaissance Italy, and when England was filled with Italian designers and workmen, the formal type of



Trowbridge & Ackerman, Architects

ENGLISH DERIVATION IN AN AMERICAN COUNTRY HOUSE

True to its English Renaissance derivation, the balustrades are distinctly Italian, while the profile of the roof, the use of materials and the introduction of metal casement windows are purely English

(A residence at Glen Cove, Long Island)



Boring & Tilton, Architects

AN ADAPTATION OF THE ENGLISH "TUDOR" STYLE IN AN AMERICAN COUNTRY HOUSE

The style which marked the transitional stage, in England, from Gothic to Renaissance architecture, lends itself admirably to the rendering of picturesque yet imposing country houses. The flat, pointed arches, the "battlements" and the use of brick and stone are characteristics

Italian garden, with terraces, grottos, fountains, statuary and "temples," placed its permanent stamp on English garden design.

By the end of the Sixteenth Century the gloom and much of the primitive austerity of the "Keep" had quite disappeared. The only surviving feature was the "great hall," but this, too, was rapidly changing. Its walls were treated with oak panelling, its barrack-like barrenness was relieved by tapestries, banners, trophies of the chase and discarded family armour, as well as rich and decorative family portraits. Furniture, too, ever developing in variety, comfort and appearance, contributed toward creating an environment constantly more livable.

Throughout the Tudor period the "Hall" was gradually changing into the "Manor" of Elizabethan and Jacobean times. Great Tudor country places such as Sutton Place, Moreton Old Hall, Hengrave Hall and Longleat House were stamping a new character on English domestic architecture. Many of the houses of this time, such as Longleat, were continued later, with subsequent additions. The Elizabethan garden front of Great Tangle Manor (Frontispiece) conceals, behind its pleasant aspect, an early Norman Keep, quite built about with later changes, and the original moat, spanned by charming garden bridges, has been treated as "ornamental water," with aquatic plants.

Under Elizabeth, England became more prosperous and more internally peaceful than at any earlier time, so that the Tudor evolution of the country house went on unchecked, and, stimulated by sudden fortunes made by prominent families in foreign trade and maritime adventure, became almost modern in its appearance. Some great houses of Elizabeth's time are Hardwick

Hall, Holdenby, Bramhall, Knole, Montacute House, Wollaton and Westwood. And, as in the instance of Great Tangle Manor, many earlier dwellings were brought up to date with extensive renovations and additions.

Even at this time there became apparent one of the English country house characteristics which remains to-day as a no less conspicuous and peculiar charm—the use of local and varied building materials. Most of the great houses were of local stone, with heavy slate roofs, lead flashings and rain-leaders and leaded casement windows. Where stone was scarce, brick was used, sometimes with the corners and window and door openings of stone. In some counties, notably Kent, Surrey and Sussex, half-timbered construction was a favourite Elizabethan type. In many cases stone, brick and half-timber were all used in the same house, perhaps at different times, and this diversity of colour and texture, as well as the varied natures of successive additions, developed an essentially *picturesque* type of domestic architecture which even the formal classic edifices of the Georgian period did not supplant, and which is the keynote of the domestic architecture of England to-day.

Early Jacobean manors continued along Elizabethan forms, with the note of the Italian Renaissance becoming increasingly conspicuous, especially in garden design. The Civil War, with its brief gloom of Cromwellian Puritanism, interrupted, but did not check the consecutive development of the English country house, and the period saw the erection of such famous and historic mansions as Hatfield House, Audley End, Thorpe Hall, Coombe Abbey and Raynham Park. It was the period of Inigo Jones and Sir Christopher



**AN ARCHITECTURAL TYPE WHICH HAS FURNISHED MUCH
LATTER-DAY INSPIRATION**
(Old houses in Holborn, London)



Raleigh C. Gildersleeve, Architect

A MODERN ADAPTATION OF ENGLISH HALF-TIMBER ARCHITECTURE
The decorative value of half-timber work is one of its most important features to-day
(Dormitory building at Princeton, N. J.)



THE FORMAL TYPE OF ENGLISH COUNTRY HOUSE

As early as the reign of Queen Anne, and throughout the Georgian period, the English country house was formal rather than picturesque (Heale House, Salisbury, England)

Wren, both eager exponents of the Italian Renaissance, and both responsible for the marked change which was coming over the English country house.

Before entering into a discussion of the chilling change which "the Classic Taste" wrought in the English country house, it would be well to note in review some characteristic details which are to be associated with dwellings in Gothic, Tudor, Elizabethan and Jacobean (Stuart) times.

In late Gothic and Tudor houses, doors developed from the barn-like battened type to heavily framed doors, those of Tudor times usually pointed to conform with the "Tudor arched" openings in which they were hung. Bare stone walls were hung with tapestries, or the coarse-woven "arras," which, however, was no longer used in place of doors between rooms. Panelled wainscots were frequent, carved with Gothic tracery, or with the familiar and decorative "linenfold" motif. The ceilings of large rooms showed the heavy open timber trusses which supported the roof, and these trusses were often elaborately carved.

The Elizabethan period, really to be regarded as "English Renaissance," was as much a transitional period, in some respects, as the Tudor. It has been characterised as bearing the same relation to fully developed English Renaissance as the French style of François Premier bears to fully developed French Renaissance.

Thus many Elizabethan houses are found to retain such Gothic features as towers and battlements, buttresses and many Gothic mouldings, while introducing square-headed windows instead of pointed Gothic windows, gable ends, oriel windows and large bay windows, all in leaded glass, with sash of the casement type.

The "linenfold" panel of Gothic and Tudor times continued in popularity, though Gothic tracery motifs disappeared from domestic architecture.

Half-timbered work reached a high stage of development in Elizabethan houses, both in country and city. One illustration shows a characteristic "row" in old Holborn, in London. It must be remembered, however, that half-timber work originated in Gothic times, though few examples of such early date remain to-day, especially in England.

The interior of the Elizabethan house began to assume many characteristics of the house of modern times. There was the "great hall," and, in such examples as Haddon and Hardwick, the "long gallery." The staircase was made a highly decorative architectural feature, with elaborately carved hand-rails and newel-posts, the latter usually carved in the form of an heraldic animal. The staircase, as a feature, had been largely overlooked until the Sixteenth Century, but from the Elizabethan period onward never again sank into architectural insignificance.

The great, cavernous fire-places, with overhanging hood, of Gothic type, gave place to smaller fire-places with elaborately carved, and often polychrome treatment of the over-mantel a blazoned coat of arms usually forming the central motif. In subsequent evolution the over-mantel carving gave place to the over-mantel painting, with carving surrounding and framing it, as in the works of Grinling Gibbons.

Elizabethan ceilings were of figured plaster, in interlaced geometrical patterns, carried out with considerable freedom, and this type held in favour until the end of the Seventeenth Century. Panelled ceilings were then introduced, and these in turn gave place to the alle-

gorically painted and the low-relief plaster ceilings of Classic character which came with the Eighteenth Century Classic revival.

During the Elizabethan period, floor coverings and furniture upholstery became important elements of interior comfort, and, through the Jacobean period and onward, became increasingly more plentiful and more like similar decorative embellishments of to-day.

Panelled interiors were at their best in the houses of Elizabethan and Jacobean times, and the latter period carried to more luxurious and "modern" developments the domestic interior improvements of the former period.

The exteriors of Jacobean country houses were enlivened by elaborate bay windows, as well as by large groups of mullioned windows (the "mullion" of a window being the member dividing one *opening* from another: the member dividing one *pane of glass* from another, in a wooden sash, is a "muntin").

Dormer windows with gable ends, often fanciful in contour, diversified Jacobean roof lines, and differed from later dormers in that they were essentially a part of the wall, rather than a part of the main roof. The entrances of Jacobean houses were architecturally elaborated with Italianesque columns or pilasters and a profusion of carving, often heraldic, while gable ends, especially in brick buildings, assumed much of the diversity and picturesque shape of the gables of the Holland Dutch Renaissance type.

An Italian detail notably characteristic of Jacobean architecture was the semi-grotesque terminal figure, frequently used as a pilaster, and grotesque forms often appeared in the form of finials. The typical Jacobean finial, however, as characteristic as it was alien to

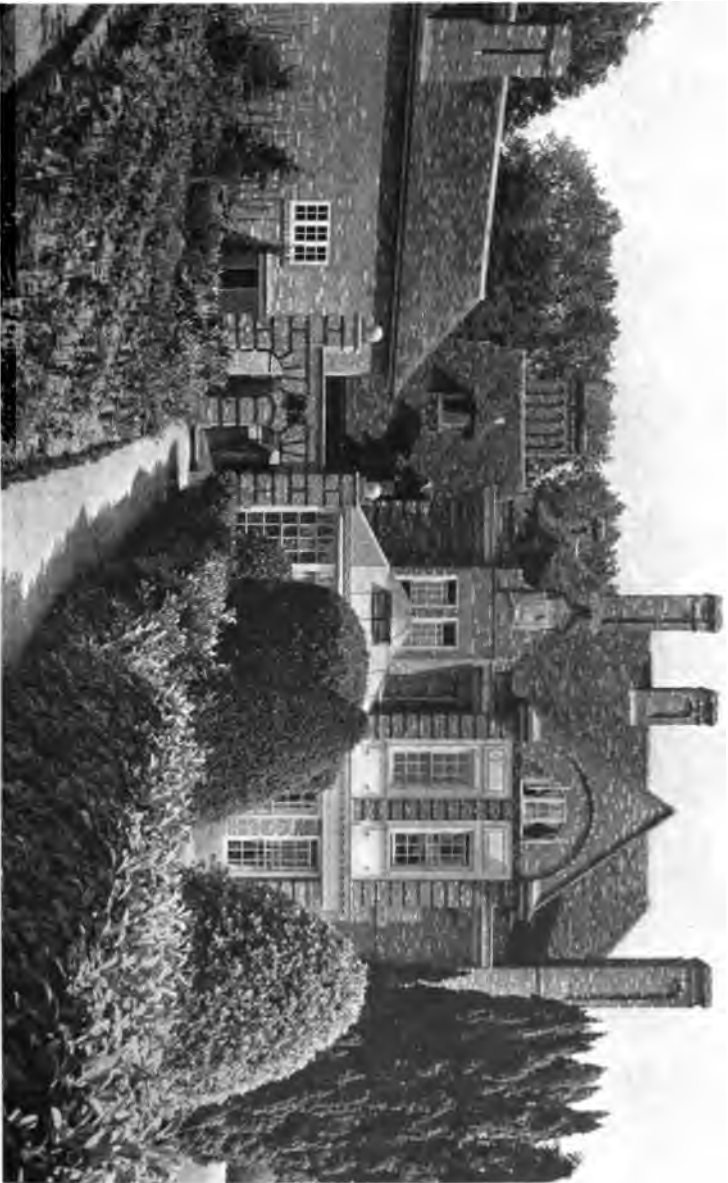
many other details of the style, was the small, stunted obelisk, which was commonly placed on the posts of garden terrace balustrades, on gate posts and on the gables.

Intricate carving, both in stone and wood, was characteristic of the period, and this detail was carried out after Italian patterns and designs, though with the spirit of Elizabethan and earlier English execution. Many interesting and quaint forms were the result, all contributing to the achievement of that peculiar picturesque richness of the Jacobean style.

But at the close of the Jacobean period, a comparatively artificial fashion for formality began to make itself apparent in the dwellings of the reign of William and Mary and Queen Anne, forecasting the Classic Revival of the Georgian Period. Houses of the two Dutch reigns, however, maintained a certain element of homelike atmosphere which was soon to vanish in the works of the Georgian Classicists.

The Jacobean manor was still more picturesque than formal, but the Georgian house was more formal than picturesque. Wren died in 1723, during the reign of George I, and the architects of the reigns of the two succeeding Georges were Gibbs, Kent, and the Adam Brothers.

The fashion was for things Italian, then for the works of the Georgian Classic Revival, and whatever was attained in the new mode of scholarly and academic niceties of design and detail was more than lost in the passing of the picturesque informality of the Tudor, Elizabethan and Jacobean houses. Many titled gentlemen were architectural "amateurs" and had much to do with the design and garden layouts of their own places. Such a scholar and an amateur was the Earl of



A. Winnet Rose, Architect. (Copyright by the Architect)

AN ENGLISH COUNTRY HOUSE OF VARIEGATED BRICK

Large or small, built of whatever material, the modern English country house attains striking values of picturesque charm
(A house at Walton on Thames, England)



Albro & Lindberg, Architects

ENGLISH DERIVATION IN AN AMERICAN COUNTRY HOUSE

While embodying many elements characteristically English, there is expression here of a certain native directness of handling



Albro & Lindberg, Architects

AN AMERICAN COUNTRY HOUSE OF COMPOSITE ORIGINS SKILFULLY ADAPTED AND BLENDED

The general effect of this house is that of an enlarged English cottage, while the element of Classicism appears in the Doric columns, and of Italian derivation in the pergola treatment of the entrances. The effect of a thatched roof is contrived by an ingenious use of wooden shingles

Burlington, who published a portfolio of drawings by Palladio, called the "Antiquities of Rome." This work, with other similar contemporary publications, was but fuel for the furnace of general enthusiasm over Classic art and architecture, and the Earl was lampooned with one of those gentle but terrific satires of Pope, who addressed him in his characteristic vein :

"You show us Rome was glorious, not profuse,
And pompous buildings once were things of use.
Yet shall, my lord, your just, your noble rules
Fill half the land with imitating fools;
Who random drawings from your sheets shall take,
And of one beauty many blunders make;
Load some vain church with old theatric state,
Turn arcs of triumph to a garden gate.

Shall call the winds through long arcades to roar.
Proud to catch cold at a Venetian door."

The Anglo-Classic country house showed radical changes in its plan as compared to earlier English dwellings. The plans were formal and symmetrical, developed in correspondingly formal and symmetrical elevations. Classic pediments and colonnaded porticoes gave an air of dignity to the houses, and in doing so deprived them of their earlier atmosphere of domesticity. Interesting and irregular roof-lines disappeared, and the sky-line became hard and formal, with tall, straight chimneys and Classic finial urns.

In Jacobean and Elizabethan houses, dormer windows were a portion of the wall of the house, picturesquely carried up through the eaves of the roof, but the Anglo-Classic dormer window became entirely a part of the roof. Systematic and calculated spacings of windows are a part of formal designing, but are not productive of informally artistic effects. In the Classic

school of design, "picturesque accidents" are impossible.

Within, most houses of the period did not belie the impression of frigid stateliness conveyed by their exteriors. Rooms were high and imposing, with chaste ceilings in low relief plaster patterns by the Brothers Adam, or formal fresco paintings by Italian decorators. The settings were admirable for the delicate Classic furniture of the Adams, Sheraton and Hepplewhite, and it is not remarkable that fashion embraced as a relief from so much dignity the quaint fantasies of Chippendale's "Chinese Taste" in furniture and decoration. Gone were the mellow, home-like oak-rooms of Elizabethan and Stuart times, as well as the more formal, but still human, interiors of the period of William and Mary and Queen Anne.

The Anglo-Classic style of the Georgian Period was better rendered as a domestic style by the American colonists, and while it offers many admirable architectural features, its ultra-formality seems in need of radical modification for any uses other than the expression desired in a dwelling designed to be the setting for large and elaborate formal receptions and impersonal entertainment. Georgian Classic architecture has not enough points of contact with our life of to-day to make it a popular style for the country house, except it be Georgian Classic humanised and brought nearer to us in the works of the American Colonial builders.

It is to be said, however, that the formal city residence or the fashionable club or exclusive shop may find great architectural inspiration in the pure Georgian style, which possesses exactly that degree of dignity, impersonality and urbanity most desired in buildings of this sort.

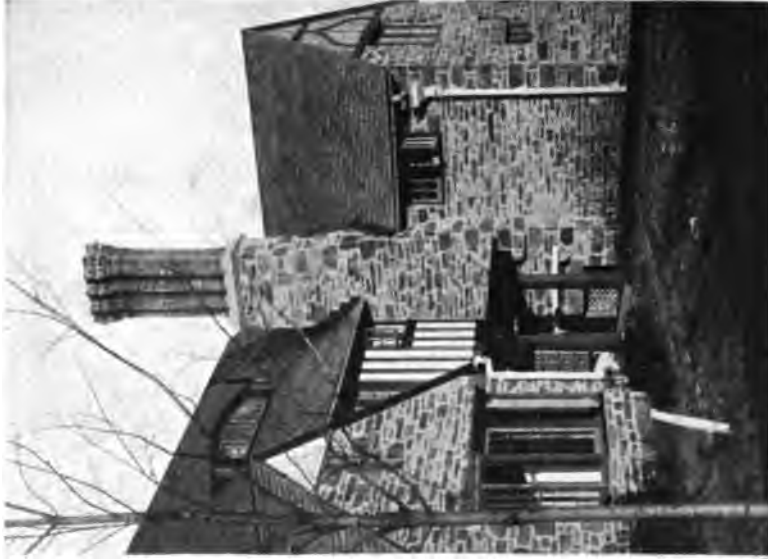


H. T. Lindeberg, Architect (Albro & Lindeberg)

TWO MODERN ENGLISH DERIVATIONS IN AMERICAN COUNTRY HOUSES
The low picturesque roof line is essentially characteristic of modern English domestic architecture, while the introduction of the formal Italian Palladian entrance is a daring but effective stroke of individuality in design



Mellor & Melges, Architects



Mellor & Melges, Architects

ENGLISH DERIVATIONS IN THE AMERICAN COUNTRY HOUSE

With the local lodge-stone of Pennsylvania, there have been agreeably blended such English elements as half-timbering, chimney design and roof profiles.

A reflection of an artificial taste in its own time, the style can be but doubly artificial if inappropriately employed in this country to-day.

Strong Classic influences remained in force until the end of the Eighteenth Century, and appeared even at the beginning of the Nineteenth Century, when a period of architectural chaos began, out of which loomed such architectural mistakes as the Ruskinian Gothic Revival and such architectural fantasies as the efforts of Charles Eastlake.

Mention has been made elsewhere of Mr. Ruskin's unsuccessful attempt to illumine architectural gloom with the "*Seven Lamps of Architecture*." The inept monuments of the period still exist, on both sides of the Atlantic, to bear testimony to the unwisdom of any arbitrary attempt to popularise an architectural style. Of Eastlake less is known, and of the two he was, perhaps, more sincere than Ruskin, and had a more lively vision. Eastlake's vision was the creation of a style of architecture and furniture which was to be, if nothing else, *picturesque*, and based on no stylistic precedent. Eastlake's mistake lay in ignoring the fact that the picturesque, in architecture or any other art, *happens*. It is not the result of deliberate intention, and becomes bizarre or even actually unpleasant in direct proportion to the amount of conscious effort which has gone into its contrivance.

Eastlake published a book in 1870, and for a time his "style" found expression in hundreds of small houses in England and America. Many of these we still have with us, mute testimonials to an unenlightened groping for the "artistic." There were pointed gables; there were queer windows of "bull's-eye" glass deliberately differing in kind and size, scattered here and

there in the walls; there were galaxies of turned spindles, explosions of sunflowers and rosettes, and riots of jig-saw traceries dripping from the eaves. Decent carpenter work was scalloped, perforated and scroll-sawed, and the interiors, in a few survivals of to-day, seem æsthetic curiosities indeed, restlessly decorated with obviously European-Oriental motifs, and embellished with fans, peacock feathers and "vases." Without apparent or sufficient reason, glazed tiles of gay colours were built into wooden houses, and gable ends were embellished with weird mosaics of broken glass, shells and pebbles imbedded in stucco.

At its best the Eastlake style was, undeniably, picturesque, and helped to make possible the later acceptance of a more legitimately picturesque style.

At its worst the Eastlake style was one of the most fantastic and nonsensical parodies on structural and architectural effort that the world has ever seen.

With the rise of William Morris and his school, about 1858, a new era dawned in England in the realm of thought on arts and crafts. While Morris himself was an artist and a craftsman, and essayed no conspicuous works in architecture, his tremendous significance lies in the fact that he taught people to think honestly about things artistic, and to appreciate sincerity in artistic effort. Such absurdities as the hybrid manifestations of the Eastlakian school became intolerable, and the new creed demanded *honest* construction, *expressive* construction, and *appropriate* ornament in all things. Morris, Rossetti, Burne Jones, Walter Crane, F. Madox Brown, and a few others, set about making honest designs, and the new spirit immediately made itself felt in contemporary architecture.

Webb and Shaw were the forerunners of such great

modern English architects as Voysey, Lutyens, Bidlake, Baillie-Scott, E. Norman Shaw, Dawber and a host of others. And these are the architects of the modern English country house, which attempted in its style no arbitrary revival of any historic type, but rather an informal and essentially picturesque composite of all that was most charming in the earlier works of Tudor, Elizabethan and Jacobean times, blended, adapted and modernised to express modern tastes and requirements.

The modern English country house owes its characteristic charm to several facts in its composition.

It is historic, in that it has borrowed chimneys, leaded casements, bits of half-timber work and the like from the time-hallowed Keeps and Manor Houses of its own land, built by the forefathers of the present builders.

It is indigenous, because its materials as well as its design belong to the land. The modern English architects have advisedly returned to the admirable practice of making the most of local materials, and have also realised the endless possibilities of *texture* and *colour* in different materials, and the picturesque possibilities of mingling many different materials in the same house.

It is picturesque because it expresses inherited historic forms in terms of local and varied materials, and is successfully picturesque because this element has not been nervously striven for in the design.

It is expressive, because its whole conception is based on a natural understanding of the informality and domesticity of English country life.

It should be apparent that any fabric so plainly an outgrowth of its own soil, and so entirely an expression of the national traits and tastes which called it into being, must be a difficult one to successfully transplant

or to adapt in another land and to express and meet other tastes and requirements.

It is a fact, however, that successful American expressions of the English type of country house are numerous. And such expressions are at their best when they achieve some measure of the American ideas and requirements of their architects and owners, blended with their English inspiration. No literal copy can be said to possess architectural merit other than as a study in exactitude and accuracy. Nor can a copy possess any architectural significance for the reason that architectural design must, above all else, be expressive—and a copy can express nothing but lack of expression.

The English country house is to be regarded as a world-wide inspiration chiefly for the reason that it expresses the country house essential of *domesticity* in architectural terms more potently than any other type or nationality of dwelling, with the possible exception of the Early American type. The French château seems the setting for a comparatively artificial and formal kind of life; the Italian villa is, perhaps, more romantic and more genuine, but it is no less formal and ceremonial; the Spanish hacienda is a dwelling, but, unless greatly modified, an alien abode with which we have no racial affinity.

This essential quality of *domesticity*, this unconscious bond which most of us feel with the homes of our ancestors, the homes of our own people, should exonerate our architects from any charge of Anglo-mania or of stylistic plagiarism. To forbid our architects to adapt the English type of country house would be nearly as unreasonable as to forbid landscape painters to use green in painting trees, or to suggest that we devise a new speech. The English style is the



**AN ILLUSTRATION OF THE PLEASING INFORMALITY OF MODERN ENGLISH
DOMESTIC ARCHITECTURE**

These three houses form part of a typical English "neighbourhood" development



A TYPICAL MODERN ENGLISH SUBURBAN HOUSE

**The element of picturesque domesticity is the most conspicuous characteristic of the
modern English dwelling**



THE MODERN ENGLISH TYPE
These two houses, part of a typical English "neighbourhood" development, indicate that pleasant quality of the picturesque which characterises modern English domestic architecture

happy medium, whether for the large or the small country house, and is likely to remain so for some time to come.

The art of architectural adaptation is becoming yearly better understood and more intelligently practised. Styles are being assimilated and worthily expressed instead of half-understood and ignorantly exploited.

Certain architects have become attracted to certain styles, and the sympathy and interest which they have brought to the task of adaptation has produced results of unquestionable merit.

It is doubtful if one could illustrate a more splendid monument of English derivation in an American country dwelling than the great stone house at Glen Cove, by Trowbridge and Ackerman. Other American architects who have attained remarkable success in English derivations are Wilson Eyre, Grosvenor Atterbury, Stevenson and Wheeler, John Russell Pope, Mellor and Meigs, and, notably, H. T. Lindeberg. Mr. Lindeberg's country houses, of which several are illustrated, are remarkable in that they show such strong dual expression—English and American. They typify clean-cut, straightforward and intelligent adaptation at its best. Such derivations are expressive of sound and well-advised architectural conviction, rather than (as some critics would have us believe) hesitating architectural imitation.

It is true that very few American adaptations of the modern English country house attain such free rendering of the picturesque as the work of British architects, and the reason is to be found rather in temperamental differences than in architectural differences. One has often heard it deplored that we lack, in America, the

picturesque local materials which contribute so largely to the charm of the modern English country house. To attempt so superficial an answer to account for the difference, however, is beside the point. There are, in America, a wealth and variety of interesting building materials, both natural and manufactured, if one were to cite only the ever-interesting Chestnut Hill ledge-stone, near Philadelphia, so effectively used by the architects of that vicinity.

It is true that the British architect may employ a variety of slates and tiles and stones which we lack—but even supposing our architects (speaking of the average) could avail themselves of these materials, there would still be a conspicuous difference in the finished house.

For this, the client is accountable. The average American, as compared to the Englishman, is strangely self-conscious about things of intimate personal relation. He will rear “skyscraper” office buildings and hotels that amaze the whole world; he will launch architectural and engineering projects of colossal magnitude, and carry them through with brilliant success. But when the matter of his own house comes under his consideration, he becomes astonishingly timid and unimaginative. He has deep misgivings about a house which will be different from those of his neighbours. He and his wife, perhaps, have both travelled in England and admired the English country house. It is, in fact, their ideal—but they are afraid that their friends, or even passersby who are entire strangers, will laugh at the odd windows and unusual chimneys, and will call “queer” that which was intended to be picturesque.

Real appreciation of the picturesque, on its own

merits, is, after all, a cultivated appreciation, and this fact, coupled with an inborn timidity where outside opinion is concerned, lies at the bottom of the differences between the modern English country house and its American adaptation.

Before departing from the statement of this charge of "architectural timidity" on the part of the average American client, the writer would like to paraphrase at large a few comments which he made in a magazine essay called "The English Point of View in Architecture" (written for "*Arts and Decoration*"), in order to make the matter more specific and point a moral.

In the practice of architecture this fearless and splendidly self-assured English point of view has made possible the evolution of a type of country house the like of which, if our present personal timidity and self-consciousness endure, will never become prevalent in America.

It must always be remembered that American architects, as a class, are not entirely responsible for the finished aspect of the average country house, inasmuch as they are very often coerced at every turn by the requirements, restrictions and interdictions imposed upon them by their clients—and, worst of all, by the indirectly delivered "advice" and opinions of their clients' officious friends.

Let us take a modern English country house which is typical, and a house which a couple of prospective home builders have decided is, beyond peradventure, the "ideal of their dreams." It has a quaint, rambling plan, well adapted for future enlargement, with a wing thrown out, perhaps, at a slanting angle from the house. The roof line is varied and diverse, following the interior planning of the house—here low, there high, with

an infinity of varied pitch and unexpected angle, differing with every visual slant of the observer. The windows and chimneys are of the same unexpected sort, and are picturesque because they occur only where the needs of the rooms inside dictate their placement. As the house is designed first from the inside, its exterior naturally shows unexpected features which are impossible to create externally, for superficial effect. As another picturesque detail, the windows are of the casement type, with small leaded panes—a type of window admired by the average American home builder almost as much as it is shunned. Everywhere in the English house are quaint and charming surprises—a vertical sundial let into the wall; a low, hooded door giving on a flagged terrace, a hand-wrought lead or copper leader-head for the rain pipe, or a riot of odd little windows in a cluster.

All these things contribute to the general impression that the house is more than a mere house, and must be the home of a person of individual tastes and an appreciation for the picturesque.

Inside, the house is pervaded by the same feeling. There are inglenooks, window-seats and quaint stairways, and at some unexpected place, a great oaken beam may run across a room, or overhead in a passage. The house is a thing of continual charm—of a charm so diverse that the dweller beneath its roof never grows tired, and his guest may stay a week without discovering every nook and corner.

Now for the average American client, who goes to his architect (whom he has probably selected with much misgiving and trepidation), showing, with an air of apparent finality, a picture of this house, which, with a few very inconsequential changes, embodies every

wish of himself and his wife. The architect is delighted, and welcomes this client as a man after his own fancy. With as much dispatch as possible he prepares the first set of drawings, which delineate a house as nearly as possible patterned after the client's *beau ideal*.

The sketches presented, the prospective builder may admire them greatly and may even (at this early stage) congratulate the architect upon the success with which he has rendered the English idea of a country house. He takes the drawings to show to his wife and friends, thus unknowingly bidding farewell to his chances of ultimately attaining the house which would have architecturally reflected his actual and honest tastes.

His friends—that ubiquitous and omniscient jury which nearly every American elects to pass on matters wherein he might much better be his own law—tell him many things which they feel he ought to be warned against. The roof is “queer”—“far too eccentric,” “the architect must be crazy,” the plan is “impractical.” A few of these sapient advices effectively dispose of the interesting roof, and the builder makes a note to direct his architect to substitute a roof exactly like the roof of a neighbouring house. So it goes with the quaint windows and picturesque chimneys. His wife has always had romantic associations with casement windows, but one of her friends (whose knowledge is superior to that of the architect) tells her that they are draughty, hard to clean and easily forced by burglars. Consequently the ordinary type of American “double-hung” window is installed—a window no less draughty, no less difficult to clean and more easily forced open than any other type. Another friend is convinced that the chimneys will not draw. This he

imputes to the fact that they are designed, externally, along picturesque lines—and the builder makes a note to have the architect change to ordinary chimneys.

All the remaining features which first stimulated his admiration for the original house are eliminated, one by one, by his assiduous friends, who are determined that he shall not be disappointed in his house. In the interior, he has become convinced that varying floor-levels will not be practical, and that the great oak beam across the hall, with a quaint carved motto of welcome, will “look queer,” and might better be of concealed iron.

With these few changes, which seem to him quite trivial, he returns to the architect with what is left of the original scheme, and explains. If the architect has built many country houses, he remains patiently silent, and takes notes.

The work proceeds (if the client has not been effectually discouraged by his friends from the whole idea of building), and the house is erected. The client feels a little disappointed as he visits the building from time to time, but trusts that the finished house will be to his liking; doubtless it will, he reassures himself, remembering the volume of excellent “practical” advice he has had from his friends.

It is finished, and he is aware of a keen disappointment. He is even likely to wave the original drawing in the face of the architect, asking why the original idea was not carried out as agreed in the first conference. The architect may point out, in a mild way, that every salient feature in the original drawings was ordered changed in the finals, to something safe, conservative—and *commonplace*. The two are seldom good friends after this interview, and the owner of the

house lives in it unhappily ever afterward, deriving what satisfaction he may from telling his friends what a stupid idiot he was unfortunate enough to employ for an architect. His friends, on the other hand, who are actually more than half responsible for the unhappy house, find an equal degree of gratification in consoling the owner with thoughts of how much worse it might have been bungled if it had been left entirely to the architect. "The moral—which is plain—is easily formulated in the statement that if we consistently adhered to our honest personal desires, and consulted rather than coerced our architects, we might look forward to the attainment of a country house comparable in æsthetic and picturesque values with the works of the English architects."

In some respects the American architect has developed a more practical dwelling, especially in the plan. The American country house usually contains more large rooms, and these better lighted, than an English country house of corresponding type. And in such matters as heating and plumbing the American house is more livable and more efficient. Many English country houses, charming to look upon from the outside, betray in their plans an undue tendency to waste space with unnecessary corridors and passages, and to sacrifice large rooms to a great number of small rooms.

English plans, however, offer a number of very excellent points, at least two of which have been used with conspicuous success and credit by American architects. These two points are the "garden front" and the "office"—the latter, as will be seen, finding use only on the large estate. The idea of a "garden front," however, may be developed attractively in the house of moderate size, or even the cottage.

For some time the American householder devoted most of his thought to the impression which his dwelling would create when viewed from the front, either as one drove up to it, or passed along the road. The front, then, to be distinguished now as the "entrance front," was made imposing and "architectural," with the service wing hidden at the rear, and usually quite disfiguring the aspect of the house from that direction.

The English, for the most part, have long been fond of living in their gardens, which were sheltered from the curious gaze of the public by being laid out at the rear of the house. Much of the life of the English place is in the garden, where tea is often served, and where the family gathers, after dinner, on the garden terrace, or enjoys an after-breakfast walk. The "garden front," then, or the aspect of the house from the rear, assumes to the English architect and owner an importance equal to that of the "entrance front,"—or perhaps even a greater importance. The service wing, then, containing the kitchen and laundry, was extended to one side and concealed, to some extent, by the planting of trees, so that both front and rear of the house—both, in fact, fronts—might be architecturally treated. In some cases, both English houses and American adaptations, the entrance front has been sacrificed to the garden front, so that the latter presents a beautiful symmetry, while the former must, of necessity, be broken by the service wing. Several examples appear among the illustrations.

It would obviously be absurd to design a house with an attractive "garden front" if there were no garden from which to view it, but when the plans anticipate a garden, the American architect owes much to the British architect in the matter of beautifying

the rear elevation. And if the desire to develop a "garden front" leads to a desire to develop, also, a really livable garden, so much the better for the evolution of the American country house in general.

The "office" which is included in the plans of most of the larger English country houses is a room on the first floor provided for the purpose of dealing with coachmen, chauffeurs, gardeners and other employees of a large estate. Here wages are paid, accounts kept, complaints heard, and all the business of the place transacted apart from the rest of the house, for the "office" is provided with its own outer door and vestibule, so that there is no need for the employees invading the master's private library or study.

The living room, of course, is developed from the early English country house, and was welcomed in this country as more than a mere substitute for the formal "parlours" of the more dismal period of American architecture. The importance of the "great hall" in the historic English country houses was taken up earlier in this chapter, and the importance of its direct descendant, the American "living room," is too much a part of our daily lives to require any discussion here.

Before closing the tale of our architectural debt to England, a few comments should be made upon the great successes attained by the modern English architects in "community" or "neighbourhood" planning, as compared with most American efforts in that direction.

The English "neighbourhood" groups of houses, analogous to our American "real estate developments," show two highly desirable traits which we would do well to emulate: unity and diversity, skilfully combined. The entire architectural character of the

English "group" of cottages is consistent and unified, while each individual cottage shows picturesque differences from its neighbours, thus defeating the monotony of the "rows" of identical (and usually individually abominable) dwellings put up by the speculative builder.

It will be shown in the second part of this book that architectural merit is a most significant asset to houses built by a real-estate operator—an asset so tangible that it should not need to be urged in the cause of "better architecture" when it may be practically pointed out to be a conservative investment.

American architecture owes much to English architecture, but in no types of building to such a degree as in the country house and the school or college building. Of these, the country house must assume the greater part of the debt, because it has been a model and an inspiration to us—more than an architectural model characterised by peculiarly picturesque elements of domesticity. The English house is a symbol—an expression in architectural terms of a certain conception of country life which the American has long shared, instinctively, with the Englishman. It is a question of racial affinity, or even identity, rather than a mere architectural fashion. It is natural and obvious that, with certain superficial modifications dictated by national traits and "many inventions," we should feel most at home in houses patterned after those of our ancestors.

CHAPTER VII

LATIN DERIVATIONS IN AMERICAN ARCHITECTURE

ARCHITECTURAL TYPES ADAPTED FROM ITALY, FRANCE AND SPAIN. THE ITALIAN VILLA IN AMERICA. THE IMPORTANT PLACE OF ITALIAN RENAISSANCE ARCHITECTURE. FRENCH INFLUENCES IN CHÂTEAUX, MODERN CITY HOUSES AND HOTELS. A LITTLE APPRECIATED ARCHITECTURAL LEGACY FROM SPAIN!

LATIN derivations in American architecture, meaning all that have come to us from Italy and France and Spain, are of peculiar importance in the cultivation of an appreciative familiarity with architectural forms and types. And if the thought of Italian derivations calls most vividly to mind the American adaptation of the Italian villa, it should be remembered that this derivation is of comparatively less importance than Italian influences in other types of building.

That so little has come to us from Spain is remarkable, and should be taken rather as a lack of appreciation on the part of the architect than as an evidence of meagre or unavailable material in Spain.

In an earlier chapter it was shown how the architecture of the Italian Renaissance, based on a revival of Classic forms, emerged from the involved maze of Mediæval Gothic architecture, and some analysis of the nature of Renaissance architecture, in Italy and in other European countries, was also presented.

The architectural style of the Renaissance is a *flexible* style—a style which lends itself to fluent architectural expression in many types of building. It is a style characterised by nicety of proportion in its larger

members, and by nicety of scale in its detail. Renaissance mouldings, especially the Italian, are refined and delicate. Severe compositions of arch and column or arch and pilaster may be relieved and humanised by conventional ornament, or by decorations in fresco or sgraffito. The architecture evolved by the Renaissance Italian masters is so well studied, *as architecture*, that it is suitable in many adaptations, ranging through churches, theatres, libraries, museums, clubs and important city buildings, besides offering an inexhaustible mine of inspiration for country villas and for garden architecture. Of the Italian villa and its garden, as well as the American adaptation thereof, more will be said later.

No study of the influence of the architecture of the Italian Renaissance in America could be either complete or intelligent without familiarity with the works of the great architectural firm of McKim, Mead & White. These architects believed in Italian architecture as sincerely as H. H. Richardson believed in Byzantine and Romanesque architecture. The work of McKim, Mead & White, indeed, and of the many younger architects who were trained in that draughting room, placed an ineradicable stamp on American architecture, from 1894 onward, and effected, as well, a revival of the Italian style which has dictated the design of many of the country's most notable buildings.

One member of the firm, Stanford White, was a master of detail, a connoisseur of the finest points of architectural ornament and decoration. The small marble library in New York, housing the private collection of the late J. P. Morgan, is unanimously accorded a place among the best ten, if not the best five, American achievements in architecture.



Mckim, Mead & White, Architects

A PURE RENDERING OF THE STYLE OF THE ITALIAN RENAISSANCE

This building is generally regarded by architects and critics alike as one of the finest of American renderings of a European style
(Private library of the late J. P. Morgan)

Photograph by Julian Buckley



McKim, Mead & White, Architects

A DETAIL OF PURE ITALIAN RENAISSANCE DERIVATION

This Palladian entrance loggia is peculiarly illustrative of the graceful architectural adaptability of the style of the Italian Renaissance

(Private library of the late J. P. Morgan)

To say that this building, or the great Public Library in Boston, is a masterpiece of American architecture is, in the matter of style, a little misleading. They are Italian, rendered by American architects, as are most of the works of McKim, Mead & White. Few modern architects have approached in attainment the genius of this firm in interpreting to-day, with real finesse and understanding, the spirit of Italian Renaissance architecture. Little, if any, of the influence of the French *École des Beaux Arts* was apparent in the works of McKim, Mead & White, even in the early days of the firm. Their mission was, rather, to carry on the torch from the hands of Bramante, Peruzzi, Brunelleschi, and the other old Italian masters.

The Morgan library affords a unique example for a study of an historic style in a pure adaptation. The entrance, formed by an open loggia, is characteristically Italian. The composition of central arch and tall side-spaces, called a "Palladian" composition (whether of window, door or opening) is faultlessly proportioned. The name is derived from Palladio, the great Italian Renaissance architect who made this his favourite motif. The niches, both on the façade and within the loggia, are no less characteristic of the style, and the balusters are of a perfect Italian form. Few buildings in this country combine such harmonious general proportions with such exquisite detail in ornament and mouldings. To study the Morgan library thoroughly, and to come to intelligently appreciate its infinite architectural niceties, is to discover the real essence of Italian architecture at its best, and as directly as it is possible to do without visiting Italy. The two illustrations, showing the street elevation of the building and a detail of the loggia, will repay a careful study, and serve to impress

upon anyone a more vital and lasting comprehension of the architecture of the Italian Renaissance than any quantity of words.

Another member of the firm of McKim, Mead & White—Charles Follen McKim—was as great a master of large architectural conceptions as Stanford White was a master of detail. To his ability the country owes the noble conception of the Pennsylvania Railroad Terminal in New York City—one of the most splendid architectural monuments of America, or of the world. Patterned, in a general way, after the Roman Baths of Caracalla, designed in the vein of the Italian Renaissance, vastly magnified and wonderfully engineered, this great railroad terminal must stand for all time as an illustration of the immortal power of architecture to express any human idea of magnitude and dignity. And stylistically, it must stand as an illustration that the style of the Italian Renaissance does not necessarily imply or enforce a technique so minute and so exquisite as the rendering of the Morgan Library. So flexible is the style that a master may apply it with success to a jewel casket or a railroad terminal. To catalogue the architectural attainments of the firm of McKim, Mead & White would necessitate much space and involve much special study—suffice it to say that no one firm has exerted so profound or so sweeping an influence on American architecture, or held so high the lamp of good taste. New York City, especially, is the richer by their actual works, and the country at large by their sincere and splendid influence.

The style of the Italian Renaissance is peculiarly suited to city architecture by reason of the nicety of its proportions and that quality mentioned before—its flexibility. A serene dignity may be expressed in such



McKim, Mead & White, Architects

A NEW YORK CITY SHOP FRONT OF ITALIAN RENAISSANCE DERIVATION
(Premises of The Gorham Company)



McKim, Mead & White, Architects

AN ADAPTATION OF ITALIAN RENAISSANCE ARCHITECTURE IN A LARGE
PUBLIC BUILDING

The church in the background is in a style which might be called "Florentine Gothic"
(The Public Library, Boston, Massachusetts)



Hill & Stout, Architects

AN ITALIAN DERIVATION IN AMERICAN ARCHITECTURE
A loggia of Italian Renaissance design, characteristically embellished with fresco decorations



Harry Allan Jacobs, Architect

ITALIAN DERIVATION IN A NEW YORK CITY SHOP FRONT
 The arcaded loggia above the street level is an architectural feature essentially of the Italian Renaissance



Carrère & Hastings, Architects

A DETAIL OF SGRAFFITO DECORATION FROM THE FAÇADE OF A MODERN AMERICAN SHOP FRONT

This method of surface decoration was an invention and attainment of the craftsmen-architects of the Italian Renaissance



Harry Allan Jacob, Architect



Carrère & Hastings, Architects

TWO NEW YORK CITY SHOP FRONTS OF ITALIAN DERIVATION

The first, though proclaimed "Italian" by the triple-arched loggia, shows Eighteenth Century French feeling in the "musical attribute" panels at the fifth story. The second, with façade in sgraffito decoration, is more nearly in tune with the work of the Italian Renaissance

New York buildings as the University or the Century Clubs, or the shops of Tiffany and Gorham. A more ornate dignity may appear in such a building as the bank building, originally for the Knickerbocker Trust Company on Fifth Avenue, or a degree of humanism almost approaching frivolity may appear in such a cheerful façade as the *sgraffito* shop front shown in one of the illustrations. Another shop, of Italian derivation in design, rears a delicate façade of white marble, effectively lightened by an open, triple-arched loggia, and similar treatments form a happy solution for the narrow-lot problem of city house design.

It must be apparent, from the foregoing remarks, and from a study not only of the buildings illustrated in this chapter, but of the buildings with which we are all familiar, that the style of the Italian Renaissance is one peculiarly adaptable to the successful solution of a variety of architectural problems—problems not only of site or type of building, but problems involving the proper expression of such unarchitectural qualities as dignity and distinction. It would be difficult to contrive a short arcade of greater combined dignity and richness than the triple arched street front of the Gorham shop, in New York City, shown in one of the illustrations. In the style of the Italian Renaissance, the media for this kind of expression are inexhaustible, and a study of their range and infinite possibilities would form an exhaustive architectural study in itself.

In the consideration of Italian derivations in the form of the country villa, we are confronted by somewhat of an architectural paradox, in that we have adapted, and even welcomed, a type of country house intended to form the setting for American country life, when the original, the villa of the Italian noble of the

Renaissance, formed the setting for a very different kind of country life. It has been a case in which architectural form, alone, has been borrowed, and this, with certain added elements of romance (more literary than architectural) has been developed, with really extraordinary success, into a modern American dwelling. The American adaptation of the Italian villa satisfies us not because its prototype was in any way expressive of American tastes or American modes of life, either as a reflection or a criterion, but rather because it is a beautiful thing to look at—beautiful with the same classic purity as the Parthenon, though far more linked with the human life of to-day. The Venus of Milo appeals to us not because it typifies the woman of to-day, but because it deifies woman of all time, typifying woman, the goddess, as an idea rather than a personality. The appeal is literary, romantic and æsthetic. Queen Elizabeth appeals to us as an actual woman, just as the English country house appeals to us as an actual house. The Italian villa is more in the realm of the ideal—and it has been the task of the modern architect to make it real and habitable, which he has done with conspicuous success.

Let us look back at some of the great and famous villas of Renaissance Italy, and at the country life for which they formed the setting, for in this way we may best come to see clearly wherein the Italian villa partakes, in our American adaptation, of qualities both appropriate and alien.

In one respect the Italian villa of the Renaissance was a logical and real expression of a purpose which most modern country houses hold in common with it—it was a *retreat*. Wearied by the endless intrigues and the nervous strain of city life in the great *palazzi* of

Florence or Rome, the nobles, with their families and friends and servants, found it most enjoyable to repair to the cool loggias, the quiet terraces, and wonderful gardens of their villas, to rest and read poetry. The American family of to-day, no less wearied by endless social activities and business cares, must find the same rest and the same pleasure in an environment created to resemble the country retreat of the old Italian nobles.

The anachronism exists in the difference between the effete and indolent idea of country life which characterised the Renaissance Italian noble, and the wholesome and vigorous idea of country life which should characterise the modern American country gentleman. The Italian entertained with formal ceremony, his power was almost equal to that of a feudal lord. He engaged in no active sports or energetic outdoor life, and too often brought with him the spies and poisoners and parasitic friends whom he should have left behind him in the city. Villa life in Renaissance Italy was not, by all we have heard, very wholesome, or in any way a desirable sort of thing on which to pattern our own country life of to-day. Our architects took the stage settings, and, modifying them to some extent, let us devise and enact new dramas in place of the old.

This, perhaps, brings the most clear understanding of the propriety of the American villa of Italian derivation—it is a stage setting, and one in which we have come to feel at home because of its inherent beauty and charm, and in spite of its associations of a life and a period entirely different from our own. Renaissance depravity, mellowed by time, is further cloaked by the kindly mantle of “romance,” so that we find much historic association of real charm, where old, forgotten family histories could tell (if we lifted the mantle of

romance) of much sordid intrigue, blighted hope and a kind of life entirely different either from what most of us suppose, or from what we conceive to be the modern American ideal.

Of all American architects who have essayed the Italian villa, adapted, the master is Charles A. Platt, who has combined with a rare degree of architectural skill and surety an equally rare degree of imagination, sympathy and real artistic feeling. The result of these abilities has been apparent in his work. He has retained the charm, the romance, and the peculiar architectural chastity of the Renaissance Italian villa, and has given his rendering, at the same time, and in a manner at once subtle and forceful, something of a modern vigour of expression and a modern note of appropriateness. Other American architects have attained conspicuous success in the designing of Italian villa derivations, but Mr. Platt is the accredited master, and his works will rank always as monuments of remarkable architectural sincerity in intelligent adaptation.

It should be obvious that the Italian villa, from its nature, is inappropriate in a cold northern climate, yet, though the greater part of the United States is, during several months of the year, a country of most unpleasant climate, the villa of Italian type is built as a retreat for the warm months, and as such, it comes well within the pale of suitability. Southern California and the southern states are to be regarded as the more obvious *habitat* of houses of the Italian villa type, as well as of the Spanish type.

The superficial characteristics of the Italian villa are readily recognisable, and reasonably familiar: low-pitched roof of corrugated tile, stucco walls, occasional iron balconies, arcaded loggias, garden terraces, and



Charles A. Platt, Architect

AN ITALIAN VILLA DERIVATION IN AN AMERICAN COUNTRY HOUSE

There is apparent here a faithful and sympathetic truth to type. The elevation of the house on an architectural terrace, the arched loggia and court, the plain wall-surfaces, wide eaves and low-pitched tile roof are all salient features of the great villas of the Italian Renaissance

Photograph by Julian Buckley



Charles A. Platt, Architect

ITALIAN DERIVATION IN AN AMERICAN COUNTRY HOUSE

A view across a terrace courtyard, and into a loggia, forming a picture rendered with rare architectural skill and sympathy after the style of the great villas of Renaissance Italy

often a *patio*, which is the salient feature, also, of the Spanish house.

The Italian garden is inseparable from the house, and, being of a distinctly architectural nature, is closely tied to it both in plan and in general character. The picturesque possibilities of the Italian garden cannot be overstated or unduly admired, and those of the great villas of the Renaissance have formed, and will always form, the greater part of our inspiration in garden design. We have seen what a deep and lasting impression the garden art of Italy made upon England, where elaborate and beautiful schemes were laid out thoroughly and frankly in the Italian manner, about Jacobean and Georgian country houses.

The Italian type of garden, though it is what is known as a "formal garden," possesses so many elements of the picturesque that its formality is its least conspicuous characteristic. The greatest skill was shown in the disposition of terraces, pools, fountains, grottos, garden statuary, and pavilions, as well as an inimitable artistry in the design of all these garden embellishments.

It is conceivable that many people have decided upon the Italian villa type as their building inspiration because they are completely fascinated by the Italian type of garden which must form a part of the plan.

The Italian garden owes its permanent value and its real significance to the fact that it came as an intelligent solution of the problem which exists in any attempt to blend architecture with nature. The Italian garden is the connecting link, its subtly devised planting binding it to the surrounding hillsides or groves, its terraces, walks and detached casinos and pavilions binding it to the villa. A garden entirely architectural

merely spreads the architecture of the house or villa outward to some inevitably sharp line of demarcation where the planting of nature begins. A garden entirely informal leads natural planting and natural contours directly up to an equally sharp line of demarcation in the architecture of the house.

Returning to more general consideration of Renaissance Italian derivations, in American architecture, it must be remembered that these play a more important part than any other European style, excepting always the Classic bases of architectural design, from which, indeed, the architecture of the Renaissance itself was wholly derived. The Greeks gave to architecture its eternal fundamentals of the orders, the mouldings, the entablatures and the general proportions which were subsequently further developed by the Romans, and humanised and embellished by the Renaissance Italians, to be revived once more in our own age as an architectural language peculiarly adapted to the best expression of a wide range of architectural problems.

We have drawn certain comparisons between the spirit of "country life" as conceived by the Renaissance Italian villa owner, and the modern American gentleman. To understand the artificial status of the adapted French château, similar comparisons are necessary.

French country life, notably in the Eighteenth Century, was a very formal affair, consisting, indeed, of urban social entertainments and life being merely transplanted from city to country. Hunting was more of a ceremony than a sport. It is a significant fact, in this connection, to remind ourselves that the French had not even a word in their language to convey the idea, and borrowed, with a prefixed definite article



Charles A. Platt, Architect

AN ITALIAN VILLA DERIVATION IN AN AMERICAN COUNTRY HOUSE

Looking from the loggia and across the terrace of an American country house which is in perfect character with its Italian prototype. (The iron tie-rods, relieving the thrust of the arches, illustrate a frequent expedient of Italian Renaissance architecture)



Charles A. Platt, Architect

ITALIAN DERIVATION IN THE
 Every detail here shows direct derivation from the Renaissance villa architecture of Italy—the fountain in the terrace wall, the stairway, the "rusticated" masonry, and the graceful balustrade



Charles A. Platt, Architect

THE AMERICAN COUNTRY HOUSE
 The architectural disposition of this court is Italian, the old Byzantine well-head in the center recalling similar uses of Roman antiquities in Renaissance Italian villas. The freilodge, or lattice treatment, is essentially a French device

“le sport,” conscientiously endeavouring to emulate their more outdoor-loving English neighbours across the channel.

Versailles and the several charming “play-houses” of Marie Antoinette are admirably illustrative of the spirit of French country life. To the gardens and the “make-believe” farm buildings of Little Trianon, repaired the charming Marie and her *côterie* of friends to play at being milkmaids and shepherdesses, attired in “appropriate” costumes of silks and satins. Here was the keynote of that charming and naïve artificiality which is architecturally expressed in the country houses of the French nobility.

Some of the smaller *châteaux* should offer considerable suggestion to the American architect who is engaged in designing a semi-formal country house, and the *château* style may be regarded as reasonably appropriate for a magnificent house at such a fashionable place as Newport, where elaborate and formal entertainments are in order, and where the avowed intention is to recall the splendour, the lavishness, the luxury, and the grand manner of the court of Louis XVI.

The case is again a case of theatrical scenery, contrived with due consideration for the kind of life to be enacted by the owners. A large American country house of the *château* type may be an architectural expression absolutely appropriate or absolutely inappropriate—according entirely to the kind of life it is intended to set off. “Biltmore,” the Vanderbilt country place in North Carolina, and “Ochre Court,” or the house of J. Nicholas Brown, at Newport, are excellent examples of American adaptations of the French *château* as commendable for their architectural man-

ner as for their suitability to the kind of "country life" enjoyed by their owners.

Other American families of social prominence have elected to have their "country houses" done in the manner of Louis XVI, recalling the Trianons at Versailles—such well-known Newport houses, for example, as "the Marble Palace" and "Rosecliff."

A French style once very popular but now by no means in favor, was the style of Francis First, transitional from Gothic to Renaissance. This, in fact, is the original château style, with round towers, capped by conical roofs, almost like steeples—a style undeniably picturesque, yet equally undeniably inappropriate as an architectural medium of expression for American tastes or American life.

As the influence of the Renaissance style supplanted the Gothic, and was in turn supplanted by the Classic, the French château became increasingly more restrained, though no less artificial. Château architecture has a certain dignity, a certain impressive air of nobility and of "smartness" which has its appropriate applications and its own merits. The style, however, can never be expected to become a part of American architecture.

Of French influences in city and public buildings much was said in the fourth chapter, outlining the trend of French design from the time of Louis XIV, through the classic revival of Louis XVI, and the present manifestations of Beaux Arts teachings.

It will be apparent from a study of that portion of the text, with its illustrations, that French city architecture plays a conspicuous and agreeable part in the design of many of our city buildings. All French styles from that of Louis XIV through the Beaux Arts,



Albro & Lindelberg, Architects

Photograph by Julian Buckley

AN ITALIAN DERIVATION IN AN AMERICAN COUNTRY HOUSE
Skillful architects have adapted Italian architecture and at the same time have retained its charm



Albro & Lindeberg, Architects

AN ITALIAN VILLA DERIVATION IN AN AMERICAN COUNTRY HOUSE
The low pitch of the roof, the treatment of the chimneys, and of the hooded doorway,
proclaim the Italian origin of this dwelling



Albert Kelsey & Paul P. Cröi, Architects

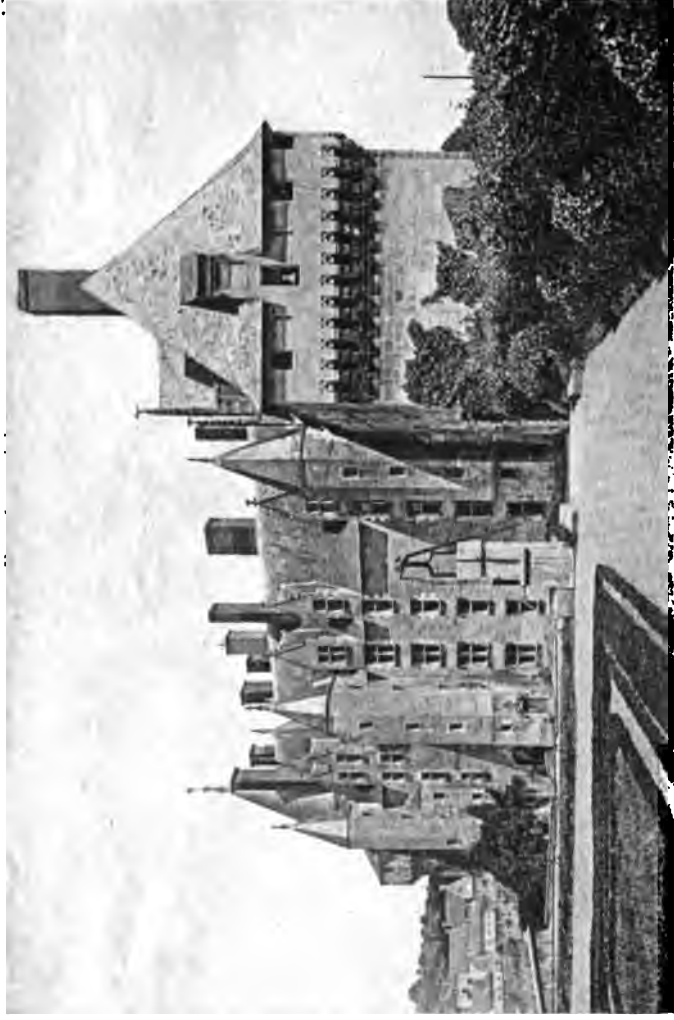
**An effective and successful introduction of the Spanish *patio*, or garden courtyard, with
a fountain, in an American monumental building**
(The Pan-American Union, Washington, D. C.)



Attero & Lindenberg, Architects

AN ITALIAN VILLA DERIVATION IN AN AMERICAN COUNTRY HOUSE

An interesting illustration of the "selective" nature of American architecture; the plan, with its symmetrically developed "garden front," is English, while the treatment is Italian. The terrace and the end pavilions are essentially Italian, though rendered in an American manner



THE TYPICAL PALATIAL RESIDENCE OF FRANCE, FROM MEDIEVAL TIMES THROUGH THE RENAISSANCE

The French chateau, first a residential fortress, later a country pleasure palace, has furnished much architectural inspiration which is to be reckoned with to-day (Château de Langeais)



THE NEW ENGLAND GAMBREL-ROOFED TYPE
A typical early American Colonial house at Hadlyme, Connecticut



THE DUTCH COLONIAL GAMBREL-ROOFED TYPE
A typical Dutch Colonial house, the Terhune homestead, at Hackensack, New Jersey
(The dormer windows in the roof are a later addition)



CLASSIC DERIVATIONS IN EARLY AMERICAN ARCHITECTURE

A characteristic detail, showing columns and pediment, pilasters, a Georgian "fan-light" over the door and a Classic Georgian Palladian window above



A MODERN DERIVATION FROM EARLY AMERICAN CLASSICISM

By virtue of assimilation, the English Georgian style of Colonial and Post-Colonial days has come to be regarded as a native style, usually called "American Colonial."

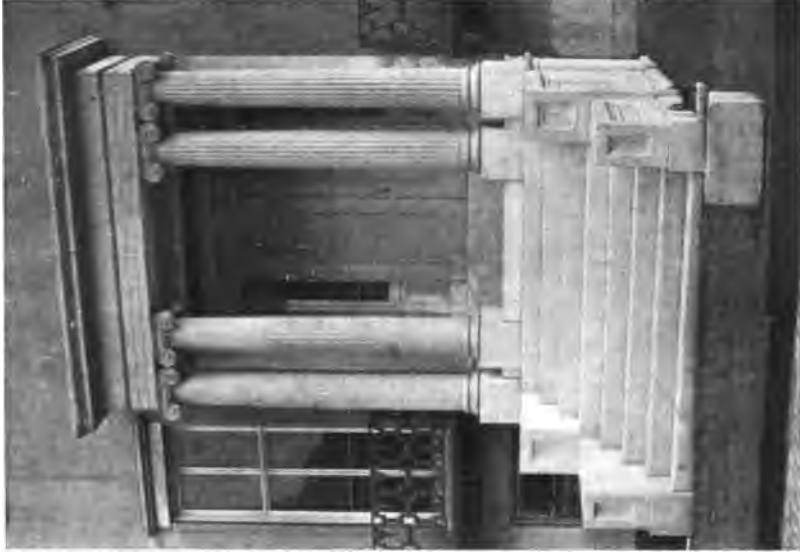


Seth Geer, Architect & Builder

THE "AMERICAN EMPIRE" STYLE, A PURE EXAMPLE OF THE GREEK CLASSIC REVIVAL IN AMERICA

The large columns are replicas from the monument of Lysicrates in Athens, the entrance introducing a pure Greek Doric column, with French Empire wreaths in the frieze, and iron candelabra and rail of Pompeian design

(Colonnade Row, New York City, built in 1836)



THE GREEK CLASSIC REVIVAL IN AMERICA
Typical example— a Greek Ionic porch in a city house in Baltimore, Md., built about 1820



A MODERN RENDERING OF GEORGIAN CLASSICISM
Georgian details for the embellishment of a brick building constitute a style excellently adaptable to many modern types of building
Skinner & Walker, Architects

or Modern French style, have been extensively utilised in the design of many of the largest American hotels, as will be seen in the ninth chapter, and the style of Louis XVI has furnished the inspiration for many chaste and suitable city houses and shop fronts.

The frivolity of the more extreme type of French architecture is excellently suited to the design of theatres and restaurants, where it is desired to offer a festive environment to the patrons, and to effect a brilliant architectural background for gay gatherings. The inevitable reaction from too much frivolous hotel architecture will be pointed out in the ninth chapter.

The debt of American architecture to the architecture of France is stated in the paragraphs devoted to the great *École des Beaux Arts* in the fourth chapter, and the foregoing comments are designed to point out the necessarily artificial position of French architecture as related to the American country house.

It was remarked above that the architecture of America has availed itself but little of Spanish derivations. It is true that Renaissance Spain produced no such master-architects as Italy, yet the native genius of the race, its art strangely enriched by the legacy of the Moors, evolved many architectural forms well worthy of adaptation and further development in this country.

Spanish architecture possesses certain distinctive features, in both plan and detail. In plan, whether of residence or public building, the *patio*, or open inner courtyard, is a marked characteristic. In detail the use of wrought iron work for balconies, railings and grilles is equally characteristic. There is, too, the low-pitched tile roof, as found in Italy, the same preva-

lence of stucco wall surfaces, but no such frequent use of loggias and terraces.

Most Spanish houses, as well as those in the old Spanish colonies, whether in town or country, were built somewhat after the manner of private fortresses, as though no man trusted his fellow, or felt secure in the community in which he dwelt. The outer walls were heavy and forbidding, with but few windows, and these small, high and protected by iron grilles. The street door was a massive, iron-studded affair, with huge bolts and ponderous locks—a barrier against anything but actual siege. Whatever gentler aspect of domestic architecture existed was lavished on the *patio* or inner court, which was often gay with flowers, and cooled by a fountain in the centre. Into galleries around the *patio* opened the chambers of the house, those of the master usually occupying the first floor above the ground, while the servants dwelt below, and performed the domestic duties of the household in the court itself.

Many Spanish *patios* are beautiful with flowers and fountains, and quaintly devised galleries and arcades, but by far the greater number resemble a sort of indoor barnyard, where cattle, horses and poultry were kept secure within the main outer door over night. One must suppose that Spain, at the time when this characteristic type was evolved, was a country of thieves and brigands. The tradition of the protected *patio*, with plainly apparent need, is to be seen in the earlier *haciendas* and ranch houses of the Southwest United States and of South America. In the event of attack by Indians or brigands, outbuildings could readily be burned, live-stock taken and great loss sustained, whereas the inner court plan made it possible for the



Willis Polk, Architect

A SPANISH-ITALIAN PATIO IN A CALIFORNIAN RESIDENCE
The inner courtyard, with galleries on all or several sides, is a characteristic common to dwellings both Spanish and Italian. Though the *patio* is a feature essentially Spanish, this example is derived from the *patio* of the Messini Palace, in Rome



AN OLD HOUSE IN SPAIN

Salient Spanish characteristics are apparent here—plain wall surfaces, tile roofs of low pitch, grilles and balconies of wrought iron, and a doorway of Renaissance design



Willis Polk, Architect

A SPANISH RENAISSANCE DERIVATION
Windows at the second story of a modern Californian residence



LATIN DERIVATIONS BLENDING MOTIFS, SPANISH AND ITALIAN

Coloured terra-cotta details of a Chicago office building, designed in a rich commingling of the styles of both Spanish and Italian Renaissance

unprotected householder in outlying districts, to offer only four forbidding walls and a stout door to the marauder.

To-day, however, when no need exists for such protection of property, the *patio* offers an architectural opportunity of peculiar charm, especially in the private residence. This opportunity is being yearly recognised with greater zest by the architects of our Pacific coast, as well as many in the South and East. In a country dwelling situated in the prevailing warm climates of the Southern Pacific coast, or the states of the far South, the *patio* may well be made a spot of engaging beauty and of real significance in the daily lives of the occupants. The shadows cast by the surrounding walls will render the *patio* cool at most hours of the day, and its restricted area will make possible the contrivance of a very intimate kind of gardening, as well as the selection of many attractive and interesting types of informal and semi-outdoor furniture.

In public buildings the *patio* usually takes the form of a courtyard, serving, in the plan of the building, to afford lighting to the inner rooms. The architectural possibilities of the *patio*, however, are often lost sight of in its purely utilitarian function as a light-shaft, which is unfortunate by reason of the numerous attractive courtyard treatments which may be effected.

The *patio* of the Boston Public Library is really an Italian courtyard, flanked by cloister-like loggias, and with a pool in the centre of a grass plot. A truly Spanish, or Spanish-American, *patio* is one of the most conspicuously attractive and appropriate features of the Pan-American Union Building in Washington, D. C. Here the architects devised an open space, rich with tropical verdure, flanked by open stairways and

balconies, and with a great Aztec fountain playing in the centre of a tiled floor, wherein appear strange and interesting figures of ancient South American mythology. The *patio*, however, has been strangely neglected in American architecture, and its Italian counterpart, the courtyard has fared little better, although our eyes have been turned more to Italy for architectural inspiration than to Spain.

Spanish architecture, as well as that of Italy, is peculiarly adaptable to construction with hollow tile and stucco, and with the increasing popularity of these materials the spread of both these Latin derivations has widened.

The Italian *villa* or the Spanish *casa* can never occupy a place in our architectural thought entirely comparable with the English country house, because, as a race, we are not of Latin extraction, but Anglo-Saxon. Our esteem for these types, as well as for the French *château*, will be based very largely upon literary association and upon superficial æsthetic attraction—they will be esteemed and accepted because they bring foreign elements into our life—not because they are, ancestrally, a part of our life.

CHAPTER VIII

NATIVE AMERICAN ARCHITECTURE

AMERICAN TYPES CHARACTERISTIC OF NEW ENGLAND, THE MIDDLE ATLANTIC STATES, AND THE SOUTH. CREOLE AND SPANISH COLONIAL ARCHITECTURE. "SECESSIONIST" WORK IN MIDDLE WEST, THE "CRAFTSMAN IDEA" AND SOME COMMENTS ON THE BUNGALOW

DESPITE the continued pronouncement of writers and critics and architects who bewail the fact that there is no "national style," no truly "American" architecture, the fact remains that there exist not one type, but several types peculiar to this country. And these types, considered as divided by what naturalists would call their "*habitat*," should afford a rich source of inspiration to our architects throughout the country.

It is important at the outset to correct the loose and often misleading term "Colonial," and to divide early American buildings a little more accurately, with some proper chronological distinction. This division may be made to a great extent irrespective of locality, and a consideration of the types of native American architecture characteristic of North, South, East and West may then be better understood.

It is a common matter to hear any American building, of date prior to the Civil War, designated "Colonial," which would be as absurd as it is inaccurate, if people were to give the question even a moment's thought.

The evolution of native American architecture, from its necessarily primitive beginnings, through its more highly developed manifestations, is a consecutive one, and would afford a peculiarly interesting opportunity to study the history of the American people—if

a study so detailed could properly be included in a review so broad and extensive as the present book, wherein may be pointed out only the more salient and important points.

The broad distinction between "Colonial Architecture" and "Georgian" (or "Georgian Colonial") architecture is that the first is essentially native and necessarily primitive, while the second is essentially imported and, by reason of greater national prosperity and development, far more sophisticated and elaborate.

Early Colonial architecture reflected very accurately the various home-country influences of the settlers—English, Dutch, Swedish, Welsh, French, or German—who erected buildings in different parts of the original thirteen colonies, while Georgian Colonial architecture tended toward effecting a certain uniformity, at least in detail, and toward effecting, as well, great modifications of the previously distinctive architectural modes of the varied nationalities.

The architecture of Post-Colonial America, and of the Classic Revival is distinct from earlier styles, as will be seen by a brief survey of Early and Georgian Colonial architecture.

The clearest and most useful manner in which to study this chapter of architecture would seem to be the study by general locality, the divisions being both architectural and geographical. We have to consider, then, the architectural types prevalent in the Early and Georgian Colonial periods in New England, in the settlements of New York and adjacent portions of New Jersey, in Pennsylvania, Delaware and the southwest portion of New Jersey, and in the Southern States.

The architecture of the French and Spanish Creoles in Louisiana, and of the early Spanish missionaries in the Southwest and on the Pacific Coast—these are varieties as separate from the architecture of the thirteen colonies as they are interesting in themselves, and will be taken up in due course.

In New England the rigorous climate, as well as the yearly demolition which goes inevitably in the wake of "progress," have left but few examples of the homes of the earliest colonists, and for this reason we are too likely to picture the New England type of Colonial house as the type which was evolved in Georgian Colonial times, and of which a wealth of examples may be seen to-day.

The earliest New England houses were strange and interesting off-shoots of contemporary houses in England, modified, it is true, by local necessities and limitations.

One of their most conspicuous characteristics was sturdy construction. The corner posts of the frame were often twelve and fourteen inches square, heavily braced, and held together with tenons and dowels, or wooden pegs. It has been discovered that many of these very early New England houses were actually of English half-timber construction, concealed behind a purely superficial mask of clapboards. The heavy frames were filled in with stone and mortar—sometimes with brick, the interior surfaces finished with rough, hand-made laths and plaster, the exterior sheathed with clapboards.

An interesting feature of direct English tradition was the overhang of the second story, as well as the small diamond-paned casement windows which are to be seen in the earliest examples. New England houses

with gambrel roofs nearly all belong to the earlier period of New England Colonial architecture.

As the country grew more prosperous, the architecture of the colonists developed correspondingly. More ships plied the perilous route between the Old and the New World, and brought with them an ever-increasing number of skilled artisans, trained in the more sophisticated forms which characterised the architecture of Georgian England.

The New England houses were still severe and Puritanical in their exterior aspect, save for the entrance which became more and more elaborate. Classic columns or pilasters flanked the door, supporting a curved or pointed pediment, or a delicately moulded entablature. Beneath the pediment there was often a graceful fan-light, with wooden or leaded divisions. The usual exterior treatment was a complete sheathing of white-painted clapboards, shutters painted green and the whole four-square house roofed with a low-pitched shingle roof. There were other types, of course, the most common being the barn-roofed type, with plain gable-end and the utmost simplicity marking the whole exterior. The more pretentious of the larger New England houses were often embellished with imitation "quoins," or corner stones, fashioned in wood and intended to distinguish the house of some prosperous merchant prince from those of more humble neighbours.

An interesting peculiarity of the New England house is the oft-met-with disparity between exterior and interior—a house which would appear, from the road, to be a farmstead of the most humble kind may disclose within the most rich and intricate carved wood-work and panelling.

The writer is familiar, in detail, with the old Robinson house in the Narragansett portion of Rhode Island, as well as other very early New England houses in that vicinity. The Robinson house presents an exterior of the utmost simplicity, and were its interior beauties not locally famous, the architectural explorer would pass by without suspicion of the beautiful panelled rooms, carved pilasters, Dutch-tiled fire-places and twist-carved balusters within. Even the entrance of this once famous old mansion is simple to the verge of actual poverty in its appearance.

New England houses will all be found to have been designed with an idea of conservation of heat, which caused the chimneys to be placed always in the centre of the house, instead of on an outer wall as was usually the case in houses in the middle and southern colonies.

This same necessity of conservation of heat made the spacious entrance hall of the Southern houses a feature seldom met with in New England. Stairs to the upper portions of the house were most often steep, ladder-like affairs, built in between two walls, especially in the humbler homes. The larger house, with many fireplaces, often made more conspicuous architectural efforts in the development of the hall and the hall stairway.

When it is remembered that the early American architecture of New England might in itself be made the subject of a lengthy and interesting book, it is apparent that much must be left unsaid, and that in the present chapter it is possible to give a picture with only the most salient high-lights.

Late Georgian architecture in New England saw two famous early American architects: Samuel McIntyre, of Salem, and Charles Bulfinch, of Boston; the former

noted for his influence on residential architecture, the second for his achievements in the design of public buildings.

McIntyre, really a master-carpenter and builder, endowed with exceptional taste and appreciation of contemporary Georgian architecture, infused in the architecture of his time in New England a strong note of the Classicism of the Adam Brothers. In his work, comprising, notably, the old gateways, doorways and mantelpieces of Salem, Massachusetts, are to be seen the urns, the medallions, the scalloped fans and flat sunbursts of pure Adam inspiration, treated, all, with a little more virility, a little more weight than characterised their Adam prototypes. It is the New England architecture of Samuel McIntyre which constitutes, in the minds of most people, their conception of "Colonial" architecture. In reality, McIntyre's work was entirely Georgian, a transplanted style, locally associated with a certain part of New England.

The work of Charles Bulfinch lay mostly in the design of public buildings, of which the original Massachusetts State Capitol, on historic Beacon Hill in Boston, is perhaps the most famous. Bulfinch designed in a vein essentially Classic, and governed by sound academic principles in planning and composition. His ideal was *dignity*, and his influence on the younger architects of his time was an excellent one, making for Classic bases of architectural thought.

A characteristic New England structure is the white-painted wooden church, whose quaint steeple gleams among so many grey-roofed seaport towns and so many elm-shaded streets of villages from Maine to Connecticut. Here, again, is a type of direct English derivation, based, in a naïve and often primitive man-

ner, on the works of Sir Christopher Wren in England. Most of the towers of these New England churches, with the addition of a shingled steeple, are of the general character of the beautiful tower of the old State House, "Independence Hall," in Philadelphia. The towers rose over the entrance front of the church, ascending in a series of diminishing boxes until the steeple was reached, this sometimes springing from a delicately designed "lantern." Many of the early wooden churches of New England were beautifully designed, the tower of Trinity Church, in Newport, Rhode Island, being conceded to be one of the finest examples.

All the early American churches of this type were of earlier date than those strange and incongruous monuments of clumsy carpentry, called by Mr. Cram, with acid cleverness, "Græco-Baptist." "It cannot be mistaken: front porticos . . . of four-foot Classical columns made of seven-eighths inch pine stock, neatly nailed together and painted white, echoing like a drum to the incautious kick of the heel; slab sides, covered with clapboards, green blinds to the round-topped windows, and a little bit of a brick chimney sticking up at the stern, where once, in happier days, stood the little cote that housed the Sanctus bell."

Disregarding these blundering examples of misunderstood "Classicism," church builders in small and historic New England villages would do well to remember that their most appropriate and proper house of prayer should be designed along the lines of that which was so sincerely built by their forefathers—better designed, perhaps, more refined detail by a trained architect, more refined lines to the delicate, tapering

wooden tower, yet in the essential element of *style*, an "Early American Church."

Few small parishes can afford a good Gothic church, and if a Gothic church be not a good one, the congregation would do well to hold services in the fields. Nothing is more pathetic or repellent, speaking both humanly and architecturally, than to behold a small country church which is a vainglorious and pretentious sham in its architectural expression—having departed arrogantly from the humble place of worship of a more sincere and devout generation, yet obviously not within thinking distance from the more sophisticated church it is stupidly aping. There is, in such futile pretense, an attempted glorification of a purse-proud parish, and no glorification whatever of Deity.

A New England architectural manner which has come to be regarded as an actual "style" is the so-called "Harvard" type, the name derived from the earliest buildings erected for the old University in Cambridge, Massachusetts.

These buildings were of brick, very simply handled, and accent given by white door and window trim and white cornice. In general character, the old Harvard buildings were, of course, English, with certain interesting Colonial inflections. It is from "Harvard" architecture that the architects of modern times (Stanford White the first) revived the use of occasional burnt bricks to relieve the monotony of large uniform expanses of wall. In burning bricks, the ends of a certain number must be exposed to the fires in the kiln, and become discolored in various shades of blue, grey and purple, up to black. At the time when the first buildings at Harvard University were erected, brick was too scarce a material to allow of discarding those

with burnt ends, so these were built into the walls at random with the other bricks. The effect was, naturally, an interesting one, and is to be regarded as the origin of the present excellent variety of harmoniously colored bricks, to be considered in greater detail in Part II.

When brick became more plentiful, bricklayers very stupidly threw out all the burnt bricks, using them only in the construction of drains, or of wall foundations beneath the level of the ground. A long period followed in which the bricklayer's ideal and aim was to lay up a wall of absolutely uniform jointing, devoid of any suggestion of "color" or "interest" or "texture."

It was left for the architects of our own time to discover that much of the charm of the brickwork in the old Harvard buildings came from the "accidental" diversity effected by the recurrence of burnt brick-ends. This led to a new interest in color and texture in brick, as well as to a realisation of the possibilities of forming patterns in brickwork, and bricks with burnt ends soon became highly sought, and specified, instead of rejected as inferior.

The "Harvard" style has been very successfully developed in designs for clubs, schools, city-houses and many other types of building in which the desired architectural expression was one of dignity, simplicity and interest.

Having studied this necessarily brief review of the architecture of New England—Colonial and Georgian Colonial—let us discover, if possible, what may be its message to the architect or the home builder of to-day. It is this:

New England architecture of Colonial times affords a wealth of suggestion and an admirable basis of design for *New England* buildings of to-day. No type of

architecture could be more unsuitable or more alien as a style for any building in the far West or the South.

New England is one of the oldest settled localities in this country, and in most townships there exist to-day a large number of historic homes and old wooden churches of earlier days. Let the prospective builder, therefore, bear this in mind, as well as the committee member who is vested with the responsibility of choosing an architect or voting on plans for a new church or library building.

In comparison with Europe we are poor in architectural traditions and in social and local traditions. Let us, therefore, guard jealously, and even build up those which we have. If we live in a quaint, old New England township, where unpretentious white-painted houses gleam among the trunks of old wayside shade elms and lilac hedges, let us oppose by every means in our power the intrusion of any architectural style alien to the locality. We need not even follow local precedent to the extent of foregoing our ideals in the house we are building. We may modernise and modify, yet erect a building true to type and pleasantly harmonising with the older houses of the neighbourhood. A skilful architect can introduce sleeping porches and verandas—and certainly every interior convenience, yet remain happily within the pale of consistency. Do not ask him to design a stucco house with Spanish mission tile roof in a peaceful little hamlet in the Berkshires. The offence would be one against good taste as well as against architectural propriety.

The New England type of house, either Early or Georgian Colonial, holds ample possibility of architectural development into a charming, seemly, comfort-

able, homelike and entirely desirable house for the New England home builder of to-day.

South of the southernmost of the New England states, Connecticut, there are apparent in certain parts of New York State, and New Jersey, traces of another type of early American house—the type known as “Dutch Colonial.”

These old farm houses, which hold much of interesting suggestion to the architect of to-day, are to be found on Long Island, on Staten Island (old Dutch “*Staaten*”), on both banks of Hudson, northward from New York City, and even up the Mohawk Valley.

The most familiar of the superficial characteristics of the Dutch Colonial house is the roof-line—a low graceful sweep, differing entirely from the steep, often harsh gambrel roofs of early New England houses. In the Dutch Colonial gambrel roof the “shoulder” is near the ridge-pole, and the longer sweep is downward from the shoulder to the eaves, while the “shoulder” of the New England gambrel is usually nearer the eaves than the ridge-pole, which makes the upper slope a slight pitch and the lower slope, from shoulder to eaves, a steep pitch, sometimes nearly vertical.

The original Dutch Colonial house was a modest affair, usually small in size, and made to accommodate growing families by the addition of successive wings. The typical early Dutch Colonial house plan placed all the rooms on the ground floor and utilised the space under the low roof for storage. As the type developed, the houses were built with a half-story under the roof, lighted and ventilated (most inadequately) by means of small windows at the level of the floor. A few houses, it is true, were built with full second story, though the type as a type connotes a low building, set

close to the ground and rendered essentially picturesque by the low, graceful contour of its roof and the diversity of building materials used in its construction.

The natural building material of the Dutch, if we look across to Holland, would be brick, but in this new country brick was most difficult to obtain, although its manufacture was encouraged by the governments of all the colonies. One is often shown early American brickwork in which the bricks are pointed out as having been brought over from Holland by the first Dutch settlers. Some of this brick, no doubt, was actually imported, often as ballast, but by far the greater quantity was made on this side of the Atlantic, and is taken for Holland brick because Holland dimensions were used in its manufacture.

Failing to obtain brick, the Dutch Colonial builder made ready use of local stone, either carefully squared and dressed, or laid up in rubble masonry.

Some Dutch Colonial houses were built entirely of wood, though comparatively few of these have survived the years. The interesting peculiarity of these houses, however, lies in the fact that all four walls may be of different construction. The gable ends were usually of stone, as well as the front, which was most often treated with a coat of stucco. The rear might be of wood, or walls of brick, stone and wood might be used in the same house. In studying the Dutch Colonial house it is often difficult to determine whether or not the front porch, formed by an additional projection of the eaves, is an addition subsequent to the house itself or of coincident construction. Houses with and without porches are both met with equal frequency. The porch, however, so conspicuous by its absence throughout New England in all early houses, is peculiar to the

Dutch, and forms the origin of this essentially American feature.

We have no European prototype for the porch, even in the Italian loggia, and as our journey of architectural observation extends southward we will perceive early American porches more nearly resembling those of the present American dwelling than even the Dutch type. Attention is directed especially to the two old New Orleans Creole plantation villas illustrated. Two interesting minor details of the Dutch Colonial house, both widely employed to-day, are the Dutch door and the saw-cut wooden shutters. The Dutch door is familiar to all—cut horizontally through its centre so that the upper half may be thrown open to admit light and air, while the lower remains closed to prevent the ingress of straying poultry, or the egress of would-be straying children. The solid shutters, with apertures sawed in the forms of hearts, crescent moons and other devices, have been recognised to-day as an inexpensive yet very attractive detail for many a modern cottage.

As the architecture of Colonial America became more developed along Classic lines, with Georgian Adam detail spread through the work of such men as McIntyre and through the agency of a few good books of designs, many charming mantelpieces and doorways began to grace the previously rather primitive Dutch farm house. Classic forms, however, were rendered with an interesting freedom and individuality—were used, for the most part as suggestions rather than working models, so that the architect of to-day may find much of interest, well worth his study. As might be expected from the hands of a people who delighted, in Holland, in a free use of bright colours in architecture and furniture, we find many interiors, unlike the

prevalent chaste white of New England, carried out in various shades of blue and olive green.

In considering the adaptability of the Dutch Colonial style for present-day uses, certain striking facts should be apparent. Designed to fulfil the primitive needs of very unpretentious settlers, mostly farmers, the Dutch Colonial house copied as it stands would leave much to be desired—would, indeed, fail to come up to the requirements of even the moderate cottage of to-day.

In point of *style*, however, the Dutch Colonial house should find even wider acceptance in its native locality than is at present accorded it, especially for the small and comparatively inexpensive cottage or suburban home. It possesses a local historic appropriateness which, in itself, is an invaluable asset, and its picturesque lines, peculiarly expressive of domesticity, are such that a house of diminutive size or of ample proportions may be designed with due regard for stylistic propriety. In no flight of architectural misconception, however, could the Dutch Colonial type of house be used as a model for a stately and pretentious mansion.

Several American architects have attained conspicuous success in the rendering of small and medium-sized dwellings in style of the Dutch Colonial farm house, making, with as much grace as possible, such modifications and additions as have been found necessary. Chief among these has been the addition of dormer windows (never seen in the original Dutch farm house) to give light and height to the upstairs rooms. In many cases the profile of these dormer windows, especially if designed to effect head-room on the second floor, destroys the proper Dutch contour of the gambrel roof, yet a general effect of simplicity, and even such

minor details as quaint Dutch hardware, a Dutch door and Dutch shutters may proclaim the source of inspiration.

Immediately south of that territory near Manhattan Island where the Dutch Colonial style left its influence on American architecture, there is found another type—a type necessarily complex by reason of the varied nationalities represented by the early colonists. To western and southern New Jersey, to Pennsylvania and to Delaware came English, Welsh, Swedes and Germans. The first predominated in numbers and influence, but in certain localities there were communities entirely distinct in their observance of language, social and religious customs of their home countries. To-day such names as Bryn Mawr, Cynwyd and Bryn Athyn, bespeak the original seats of Welsh colonists. Germantown, now a part of Philadelphia, but originally an all-German settlement, bespeaks the early Teuton colonist, and the Swedes have left such monuments as Gloria Dei, or “Old Swedes” Church, plainly Scandinavian in many points of its design, and the imprint of native arts and Swedish names in many parts of Philadelphia and its vicinity.

It is not strange that these varied nationalities should have left equally varied architectural legacies, since each observed, to some extent, the traditions of the home country. The study of these national traits, however, sometimes clearly defined, sometimes blended or modified, would involve a detailed study unfortunately out of proportion to the present review.

The writer can hope only to point out certain salient characteristics which mark the “Pennsylvania type” of dwelling as it may be regarded to-day as an inspiration for modern architects.

Staunch and skilful stone building was a Welsh tradition, so that even the earliest houses are found to constitute admirable models for the workmen of to-day. In early times, brick was not so plentiful as it became later, while the local ledge stone, especially such as is still quarried at Chestnut Hill, near Philadelphia, presented itself as the most available permanent building material.

An early Pennsylvania house of the Welsh type is to be seen in "Wynnestay," which forms the subject of one of the illustrations. Salient characteristics are to be cited as a general sturdiness of aspect, an honest kind of simplicity admirably echoed in many works of the Philadelphia architects of to-day. The stone-masonry is worthy of special study, and such details as the solid wooden shutters and the quaint hoods over the doors must be remembered as characteristic.

There was a certain local resemblance traceable in the earlier farm houses of Pennsylvania, lower New Jersey and Delaware—a resemblance which is to be noted even in the homes of colonists of varying nationalities.

While the exterior walls of many of these houses, fitted with white-painted window frames, were left in the natural stone, some were roughly stuccoed, in the manner called "rougheast" by English architects, and whitewashed. This interestingly primitive device has been very successfully employed by several of the present-day local architects in their admirable modern renderings of the historic type of the vicinity. As wealth and sophistication took the place of comparative poverty and Quaker simplicity in Penn's colony, the architecture lost much of its original charm. On honest rough-stone houses were grafted pompous Georgian



From "The Colonial Houses of Philadelphia," Eberlein and Lippincott

THE PROTOTYPE
A Colonial Pennsylvania dwelling built in 1689
(*"Wynnestay,"* near Philadelphia)



Charles Barton Keen. Architect

THE DERIVATION
A modern Pennsylvania dwelling, maintaining in its design the sterling qualities of its prototype



From "Colonial Architecture for Those About to Build," Wise & Beidleman
Mount Pleasant and Dependencies, Philadelphia



From "Colonial Architecture for Those About to Build," Wise & Beidleman
"Cliveden," Germantown, Pa.

THE PRE-REVOLUTIONARY "MANSION" OF PENNSYLVANIA
More pretentious than the dwellings of the early colonists, the Georgian mansions of Pennsylvania showed evidences of Classic design and architectural pomp



Duhring, Okie & Ziegler, Architects

The dwelling of Revolutionary days in America furnishes precedent for a type of house unlike any European type



Duhring, Okie & Ziegler, Architects

Early American dwellings in Pennsylvania have afforded a happy inspiration for local adaptations

A NATIVE AMERICAN TYPE



Photograph by Ph. B. Wallace

TYPICAL OF THE BEST GEORGIAN ARCHITECTURE IN AMERICA

A committee of three Philadelphia gentlemen was responsible for this remarkably beautiful building. It embodies all the salient characteristics of the best Georgian architecture of America

(The State House. "Independence Hall," Philadelphia)

doorways and Classic details thrust themselves, often ill-advisedly, upon modest farm dwellings. The Georgian period, of course, saw the erection of many fine and stately mansions of high architectural merit, but the most charming architectural legacy of Pennsylvania, as the local architects have interpreted it, is the Early Colonial type, shown in several of the illustrations.

The environs of Philadelphia are to be congratulated upon the good taste of the group of architects who have consistently followed native local precedent in the design of suburban and country homes. This procedure has not only assured the continuity of a worthy and appropriate type of dwelling, but has made for an agreeable effect of *architectural consistency* so distressingly absent in most parts of America. A drive through the beautiful suburbs of Philadelphia will impress the observer with the thought that here has been evidenced a respect for the continuity of architectural development. The houses, it is plain, have been modernised, which, indeed, it is proper they should be. The needs and requirements of modern country life have been given expression in a delightful local architectural dialect.

Mention should be made here of the Anglo-Pennsylvanian type—a picturesque architecture which is most notably expressed in the always interesting works of Wilson Eyre, and in much of the work of younger architects who have been inspired by him. In this style we find forms distinctly English, honestly rendered in local materials and in local idioms of expression, sometimes blended with the Native Colonial type. That the result is entirely pleasing is doubtless due to the pre-

dominant Anglo-Saxon strain which is still strong in Pennsylvania.

Further south, in Maryland, in Virginia and in the Carolinas, the type changes. The most popular mental picture of the Southern mansion, however, is a picture of the later type rather than the earlier and less-known plantation dwelling.

The first colonists, though mostly people of "quality," were tremendously handicapped by lack of facilities. Labour and materials were both painfully scarce, so that the original manor, or "big house" which stood on the site of the splendid establishment of later years, was often far from magnificent. Building stone is scarce in the South, and the first colonists had little or no brick. Their dwellings, then, made little pretence to magnificence, and attained, at best, a certain element of dignity which was a reflection of the people who built them.

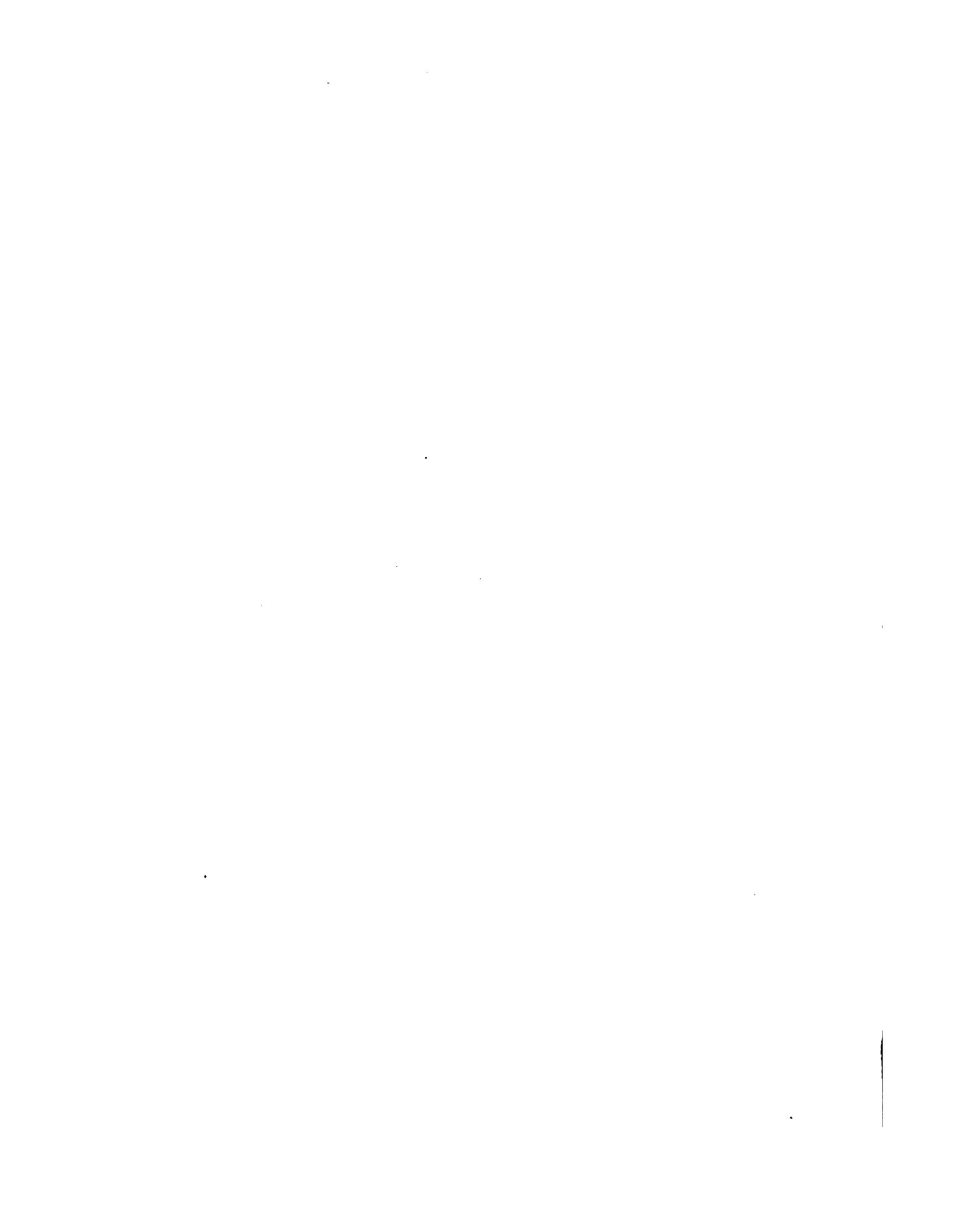
Later, as more ships plied the ocean and more skilled labourers, either free or indentured, found their way to the new country, it became possible for the now wealthy plantation owners to erect mansions more befitting their estate. Brick became more plentiful, so that there were built stately mansions of the type of "Whitehall," in Maryland, or "Westover," the seat of the Byrds in Virginia.

An appreciation and understanding of "The Classic Taste" in architecture, the Georgian vogue of England, became a part of the education of a gentleman, so that the chaste dignity of the ancient Greek temple lived again in the stately colonnaded "porticos" of the Southern mansions. This Classic strain was often carried to an extreme during the later "Revival" as in such examples as "Andalusia" on the Delaware (a



McKim, Mead & White, Architects

AN AMERICAN TYPE, WITH GEORGIAN CLASSIC DETAIL. In no European country can be found the exact prototype of this kind of early American dwelling. The columns and the formal Classic doorway indicate the Eighteenth Century Georgian influence in American Colonial architecture



perfect peristylar Greek Doric temple, surrounding a dwelling house) and continued in favour for some time after the Revolutionary War, as evidenced by Thomas Jefferson's design for his own home, "Monticello," and for the buildings of the University of Virginia.

In comparing the later Colonial architecture of the South with that of other parts of the country, it must be remembered that it was the architecture, for the most part, of people of considerable culture, means, refinement, leisure and classical education. Slaves worked the plantations, and the master dwelt in a sort of patriarchal magnificence, not unlike a feudal lord, though more like a prosperous English squire. The difference lay in the fact that the planter's broad acres were made productive by slaves instead of by tenants.

The life of the planter and of his family was naturally one of considerable ease and of palpable dignity, so that it is not surprising to find a reflection of such a mode of life in his dwelling.

The study of Colonial and Post-Colonial architecture in the South, however, like the detailed study of the architecture of any portion of America, may readily and interestingly form the subject of an extensive book in itself.

We can do little more than place it, here, in its relation to other early architectural expressions in America, and point out the rôle which it may properly play in its use as a model for the architect of to-day. By all means the Southern plantation manor of the Georgian Colonial period, as well as certain modifications of its later development under the Classic Revival, may be regarded as a suitable model for the country residence of any American gentleman of to-day.

Through historic association, however, we think of the Southern plantation manor only in connection with a considerable estate, where an imposing gateway, a gate lodge and the other evidences of a grand establishment proclaim the owner a person of wealth and prominence.

American architects of to-day have designed many admirable country houses after the style of the great Southern manors—to enumerate them, indeed, would occupy several pages. The style should be remembered as an excellently appropriate native expression for the stately mansion which is to grace an extensive country estate. In its essentials, it is Georgian, a purely English style, but its use by the great land-owning colonists of our Southern states has placed upon it an ineradicable stamp of American nationalism.

In New Orleans, Louisiana, there exists a type of Colonial architecture as little known as it is interesting—the architecture of the French Creole planters.

A correction of a popular misconception of the term “Creole” might here be in place. The name belonged first to those families descended from the early French settlers, and came later to include certain Spanish families as well. The designation “Creole” implied the highest social distinction, and was used (contrary to current supposition) to apply only to those families which were entirely without admixture of coloured stock.

These Creole families were, in most cases, French people of fine family, some of them titled Huguenots, living in exile under assumed names. Others were political exiles, and many a quaint old plantation villa, screened behind semi-tropical verdure at the head of a bayou, concealed treasures in rare French furniture,



From "Colonial Mansions of Maryland and Delaware," John Martin Hammond
AN EXAMPLE OF THE PRE-REVOLUTIONARY SOUTHERN MANOR-HOUSE
The finest development of American Colonial architecture in the South was along Classic Georgian lines
(**"Whitehall," Anne Arundel County, Maryland**)



Photograph by Julian Buckley

AN AMERICAN EXAMPLE OF THE "CLASSIC MANSION" OF GEORGIAN ARCHITECTURE
Through its successive alterations, this example of the "pediment-and-portico" type has remained true to its expression of the formal phase of early American Classic design
(**The White House, Washington, D. C.**)



Photographs by Aymer Embury II

**TWO EXAMPLES OF THE CREOLE ARCHITECTURE OF LOUISIANA—A LITTLE
KNOWN AMERICAN TYPE**

Influences both French and Spanish in the far South combined to develop a type of dwelling peculiar to Louisiana—the "Plantation Villas" of New Orleans and its vicinity

glassware and silver, taken overseas by the fugitives to grace their retreats in the strange New World.

As in the English colonies of "The Virginias" and "The Carolinas," the plantations (mostly cotton) were worked by negro slaves, and as New Orleans was, from its earliest days, a busy port, its inhabitants became prosperous in trade.

The Creole plantation villa, as it was called, was built in much the same manner as the plantation villas of the West Indies. The actual house, as dwelt in by the master and his family, was raised a story above the ground, to avoid malarial dampness at night, while the ground-level floor contained the kitchens and the unattractive quarters of the house servants, many of whom, also, dwelt in cabins with the plantation hands.

The picturesque aspect of these old French Colonial villas lay largely in their low lines and in the treatment of the *premier étage* porch or gallery, with its slender turned posts and simple railings. Some of these old New Orleans houses show Spanish influence in the presence of an entirely Spanish patio. Built to meet the tastes and requirements of a people and a life now almost vanished, this quaint architecture of our most Southern (and once most picturesque) city may still afford some interesting flashes of inspiration for the architect of to-day, who has hitherto regarded it, perhaps, as an historical curiosity rather than a document of American architecture containing many dormant possibilities.

In studying native American types of architecture, especially in the light of modern adaptations of the work of our colonists, we must not forget that, at a very early date Spanish missionaries were braving the dangers of the Far West to carry Christianity to the

Indians of the Pacific Coast, as the French Missionary Pére Marquette, had preached and taught it up and down the Mississippi valley. The great Spanish missionary-martyr, Fra Junipero, with his faithful followers, left behind them a great many buildings which possess for us to-day a strong significance, now being appreciated by the architects of the Pacific Coast.

Mission architecture, for the most part, needs considerable modification for use to-day, because those early monks and missionaries who reared the picturesque buildings for their churches and monasteries were sadly handicapped in building facilities. Virtually all the work had to be performed by their own hands, with but little assistance from their new converts, so that it was necessarily crude. There is, however, a distinct element of architectural sincerity *per se*, quite dissociated from the romantic interest naturally associated with the early missions. There were beautiful proportions, charming cloisters and, in general, a marked degree of appropriateness in these buildings. Some brick was used in their construction, and a little stone. Adobe, the natural local clay, was a material ready to hand and easily worked. Wood was little used, and nearly always with quaintly crude carpentry. Wall surfaces were plain, and roofs were of the corrugated tile familiar in Spain. It is a little remarkable that the early Spanish missions are not more widely proclaimed as one of our most picturesque and available types of American architecture. Spanish-American, perhaps, yet essentially appropriate to that locality, as inspiration for the architects of our entire Pacific Coast and Southwest.

Pacific Coast architects have availed themselves of this peculiarly interesting local type to some extent,



EARLY SPANISH ARCHITECTURE ON AMERICAN SOIL

Outer wall of San Gabriel Mission, Los Angeles, California (1780). The architecture of the Spanish Missions possessed many traits both like and unlike that of Spain, and the "Mission" style has profoundly influenced modern architectural design on the Pacific Coast



Robert D. Farquhar, Architect

**A FREE RENDERING OF SPANISH AND ITALIAN THEMES
(SIERRA MADRE, CALIFORNIA)**

The modern Californian house has been developed along lines of stylistic appropriateness



Irving J. Gill, Architect

A TYPICAL MODERN CALIFORNIAN RESIDENCE

A type of dwelling derived from the Spanish and Spanish Colonial *hacienda*, with severe exterior, iron-grilled windows and an inner garden court, or *patio*. "Mission" simplicity is also apparent

(A residence at Los Angeles, California)

blending with it many elements more directly derived from Spain and from Italy, and have also developed a distinctive type in which a strong Japanese influence is apparent, especially in the handling of exposed woodwork. Much interesting work is yearly added to the residential architecture of the Pacific Coast, from San Diego to Seattle, and the danger most to be feared, as in other parts of the country, is the danger of a lack of architectural unity. In American architecture, caprice is constantly militating against consistency, especially in the matter of local styles. Consistency need not mean monotony, for there are endless and interesting variations to be played upon every architectural theme to which we have fallen heir.

Most public buildings of the Pacific Coast, as well as banks, theatres, and the like, show few local traits differing conspicuously from similar buildings in other parts of the United States—local peculiarities, mostly very interesting and promising, seem confined to domestic architecture.

Before taking up three distinctly modern and distinctly non-stylistic types of American architecture, this review should briefly bring the story of American architecture up to date, bridging the time between the period of clean-cut native colonial types, and our present period of varied derivations.

Following the early Colonial period, came the Post-Colonial, running through the early part of the newly-established nation, and extending as far as the time of the Classic Revival, of which more was said in the fourth chapter. This was in 1812, when national feelings aroused over the war with England at that time, caused us to turn for foreign inspiration toward France. Hence the American "Empire" style—ultra-

classicism in architecture and furniture, Greek temples and Pompeian details on every hand.

What was worthy in design as a result of this imported Classic taste, such monuments as Colonnade Row, old "La Grange Terrace" in New York, was soon lost to sight in the years of architectural chaos which followed. Early Victorianism, Ruskinian "Gothic," Eastlakerian fantasies, debased bourgeois French architecture and pseudo-Swiss chalets reared themselves in a mad nightmare of architectural insanity. In 1883 the Philadelphia Centennial "finally revealed us as, architecturally speaking, the most savage of nations," and from this time on some glimmerings of architectural conscience began to make themselves felt. The so-called "Queen Anne" style, actually based on the French chateau type, if on anything, was a sincere effort toward creating a type of house which should be both pleasing and picturesque. Let us not heap too much derision upon its unnecessary towers, its queer windows and generally artificial expression of picturesque values. The designers of that time, no less than Eastlake himself, did not realise that the picturesque is not a thing of design—that it "happens," and if the result of a calculated intention, it cannot be truly picturesque.

The effects of the "Queen Anne" style, however, as well as the effects of Eastlake's mad outbursts of sunflowers, spindles and rosettes, lasted well into the '90s, and are to be felt even in such admirable pieces of design as McKim, Mead & White's Newport Casino, and other buildings of the same period.

A leaven was working, however. H. H. Richardson had clarified the architectural outlook of his time by his own splendid vision of the Romanesque or Byzantine Revival. By the opening of the World's Fair at



AN AMERICAN TYPE

A typical American "seaside villa," developed from no historic style, European or native, and purely a "natural growth"



**AN AMERICAN TYPE DEVELOPED AS AN EXPRESSION OF THE
"PICTURESQUE"**

In many American country-houses, from 1890 to date, interesting effects have been obtained by quite unorthodox uses of European architectural motifs. The result, sometimes pleasing and sometimes bizarre, constitutes no architectural "style," either native or derived



D. Knickerbocker Boyd, Architect

American ideas in country-house planning, rendered in local materials, have developed several types too remotely associated with English prototypes to be called "derivations"



Mellor & Meigs, Architects

Design to meet modern American requirements, and design in local materials, have resulted in the creation of distinct national types

MODERN AMERICAN COUNTRY HOUSE DEVELOPMENTS

Chicago in 1893 the country was ready for a change, ready to see the light and accept new architectural ideas. There sprang up in Chicago the marvellous "White City," a thing of Classic beauty, yet of a classicism which was recognised as bearing a message to modernity.

The architects of the World's Fair, notably McKim, Mead & White, became the leaders of architectural thought and effort in America, and the present era of adaptations and derivations commenced. From that time to the present the pages of European architecture have been the pages of an open and oft-consulted book, as must be graphically apparent in a glance through our illustrations. In the course of evolution, there was a certain amount of opposition on the part of many architects who felt that a menace to freedom lay in the direction of importing architectural styles *in toto*, and there appeared, for this reason, many buildings peculiarly American, and evidently expressive of a kind of æsthetic revolt.

On one page appears a typical American "sea-side cottage," built, perhaps, in 1896 or thereabout, as also the interestingly (and even pleasingly) conglomerate country house shown below it. Certain architectural ideas, such as an expression (usually counterfeit) of English half-timber work, were brazenly thrown in with a fieldstone chimney of the most informal sort, and a Spanish tile roof—Spanish in tile only, and anything else in profile. Much work of this period, possibly by reason of the very element of recklessness and defiance in the intention of the architects, attained values of a peculiarly pleasing kind of spontaneity which finds no counterpart in many better studied country and sea-side houses of to-day. Newport, in Rhode Island, is

rich in houses of this kind, as also Bar Harbor in Maine, "the north shore," above Boston, and many other fashionable summer localities.

The deliberately "picturesque" house is seldom attempted to-day—perhaps it has succumbed to the critics' not always merited ridicule. We adhere very strictly to adapted European styles, or to modern developments of early American types—excepting in three directions, and these three only in the field of domestic architecture. Owning no allegiance to precedent or style, we find Secessionist architecture, "Craftsman" architecture, and the "bungalow," which is very seldom a bungalow at all.

The Middle West, usually regarded as designating, specifically, Chicago and its vicinity, has developed several strange, interesting types of architecture which might well be regarded as the works of a group of men who should be called the "American Secessionists."

Mr. Cram, in an address on "Style in American Architecture," paragraphs them as follows:

"The Secessionist—one might sometimes call him Post-Impressionist, Cubist, even—is the latest element to be introduced, and in some ways he is the most interesting. Unlike his *confrères* in Germany, Spain and Scandinavia, he shows himself little except in minor domestic work—for at heart we are a conservative race, whatever individuals may be—but here he is stimulating. His habitat seems to be Chicago and the Pacific Coast, his governing conviction a strongly developed enmity to archæological forms of any kind. Some of the little houses of the Middle West are striking, quite novel, and inordinately clever; some of the work on the Pacific Coast, particularly around Pasadena, is exquisite, no less. Personally, I do not believe it is



Frank Lloyd Wright, Architect

AN EXPRESSION OF THE EUROPEAN "SECESSION" IN AMERICA
Notably in the Middle West, there have appeared many houses which express an endeavour to depart entirely from historic styles and forms



THE ARCHITECTURE OF "THE SIMPLE LIFE"
The use of local materials, unadorned and frankly employed, is the "Craftsman" creed —an honest and unaffected mode of living is here expressed in architectural terms
(Home of Gustav Stickley)



ORIENTAL INSPIRATION IN "BUNGALOW" ARCHITECTURE OF THE PACIFIC COAST

Many of the most pleasing of Californian cottages and bungalows are inspired by characteristics distinctly Japanese



FORMALITY AND INFORMALITY IN CALIFORNIAN ARCHITECTURE

A typical Pacific Coast "Bungalow" is seen through an entrance pergola of natural redwood trunks. The bungalow itself is constructed inside and out of this native wood

possible wholly to sever one's self from the past, its forms and expression; and it certainly would be undesirable. On the other hand, the astute archæology of some of our best modern work, whether Classic or Gothic, is stupefying and leads nowhere. Out of the interplay of these two tendencies much of value may arise."

An illustration will convey an idea of the character of this architecture of the American Secessionists—a house designed by the greatest exponent of the style, Frank Lloyd Wright, whose work has profoundly influenced many younger architects of the Middle West.

Some more general comments on the aim and intent of the Secessionist idea, as well as a paragraphic survey of the "Art Nouveau" movement are reserved for introduction in the concluding chapter of this portion of the book.

In "Craftsman" architecture we find a very direct and simple expression of a very direct and simple idea. The "Craftsman idea," indeed, might better be called a "creed"—the creed of the simple life. The style is one which, were its origin traced, would lead directly back to William Morris—a style, or a point of view, which decries all adherence to forms which recall the arts of foreign lands or other ages. Its exponents maintain that whatever may be lost in historic association is gained in freedom from constraining precedent, and in actual establishment of a contact with nature itself. It is the architecture of "the simple life."

Nor need it be supposed that "Craftsman" architecture is necessarily a thing austere and ascetic. The creed is framed to include, necessarily, all furniture, rugs, draperies and other fitments of the home, as well as the colour scheme, both inside and out.

Subdued colours of nature are specified as most expressive of perfect and reposeful simplicity, and the element of the primitive, especially in textile textures, is considered desirable. Tones are plain—flat wall surfaces, flat stencil decorations, often symbolic, things of beaten copper or dull faience—dull values of browns, greens, tans, greys and blues. Most commendable of all, the “Craftsman” creed includes honesty of construction and a frank, unashamed expression of construction—a tenet inherited direct from the earlier crusade of William Morris.

A part of the “Craftsman” idea—coincident with it and similarly related to the Morris movement, is the “Mission” scheme of architecture, concerned mostly with interior design. The “Mission Style,” so far as it can be called such, originated from two simple, “straight-line” chairs, rush-seated, designed by a Pacific Coast architect for a small Californian parish church. In that the Mission idea advocated our rejection of all art related to historic “periods,” its aim was identical with the aim of the “Craftsman” idea, while the latter exerted, and still exerts, a widespread influence over the design and fashioning of textiles, ceramics, jewelry and things other than architecture and furniture.

Its definite place in the mosaic of American architecture has yet to be won by the “Craftsman” style, for it is a current style. We are able to perceive that it has been accorded wide and intelligent appreciation, and so far as it sincerely lives up to the creed upon which it is founded, it is not only “safe” but right to accord to it a proper amount of serious appreciation.

In discussing the bungalow as seen in America, there is some danger of discussing a thing which does not

actually exist, excepting in rare instances. The real and only "bungalow" is the one-story dwelling of the Anglo-East Indian, and since this type is peculiar to India, we will, perhaps, do well to forget the absent similarity in type suggested by the identity in name, and look at the American bungalow as a distinct type, unlike any other form of dwelling, and quite often unlike itself. The American bungalow, in other words, exists in many varieties of small cottage, virtually all of which are unlike the type from which we take the name. Webster defines it: "A lightly built, usually thatched or tiled, house or cottage of a single story, usually surrounded by a veranda"—a definition accurate enough as far as it goes. The bungalow of to-day may be of fieldstone, of hollow tile and stucco, of all frame construction, or even of brick, and its roof may be of Spanish tile or of shingles.

If one is invited by a friend to visit him in his "bungalow" at the seaside, one has little, if any, definite idea of what manner of dwelling he may see, from a "portable house" to a substantial two-story cottage. Often a low-sweeping roof, giving a low appearance to a cottage, will cause the owner to describe his villa as a "bungalow." Nearly all American "bungalows" are a story and a half in height—that is, a full story on the main floor, and provision by means of dormer windows, for two or more small sleeping rooms under the roof.

A veranda is usually a prominent feature of this type of dwelling, and since it is not a bungalow after the Anglo-Indian fashion, or a cottage of the English "week-end" type, it would seem that a new designation were needed. "Bungalow," however, is likely to adhere, and may do as well as anything, despite the flexibility, and usually the inaccuracy, of its application.

The bungalow is a distinctly popular type of moderate and low-cost dwelling on the Pacific Coast, where architects have developed it into a thoroughly charming and livable affair, and it is essayed to-day, with varying degrees of success, in nearly every part of the country.

The bungalow is appreciated, in a popular way, more extensively than it is understood, and if architects and prospective builders will take it a little more seriously, and develop it into a miniature all-year-round house (a rôle it very frequently fills to-day), there may be evolved a highly desirable and essentially American type of dwelling, bearing no similarity whatever to the tropical affair from which its name has come, nor yet to any other architectural type in any other country.

At this point, having presented in a necessarily brief form, an analytical guide to those architectural styles and types which possess definite form, and which may be subjected to definite classification, it is no less important to direct a little critical attention toward certain phases of our subject which might be called "Architectural Addenda."

In point of style, comment will be made upon that strange movement called "*L'Art Nouveau*," and upon the Secessionist (now "Modernist") movement of Austria and Germany.

It will prove interesting, as well, to direct observation toward the results which have come from the application of certain old architectural styles to new architectural types—to the modern city house and shop front, the tall office building, the loft building, the vast modern American hotel and railway terminal. In "many inventions" to fulfil new and unexpected duties, the art of Architecture has splendidly lived up to its destiny.

CHAPTER IX

NEW STYLES APPLIED TO FAMILIAR USES, AND OLD STYLES APPLIED TO NEW USES. "L'ART NOUVEAU," THE "SECESSIONISTS" AND "MODERNISTS." THE CITY HOUSE, THE OFFICE BUILDING, THE LOFT BUILDING, THE MODERN HOTEL, THE APARTMENT HOUSE AND THE GREAT RAILROAD TERMINAL

NO study of stylistic expressions in architecture would be complete without some acquaintance with certain schools of design which exist outside the pale of the historic periods. It is the purpose of this chapter, therefore, to discuss certain "new" styles, and certain new applications of old styles which have been added to the history of architectural development in modern times.

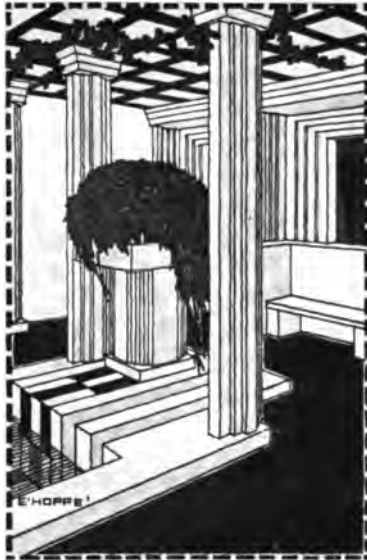
One of the first secessions from historic precedent in design appeared about 1896 in the form of a movement which was known as "*L'Art Nouveau*." This new art, originating, as its name would indicate, in France, threw design in general into convulsions which, at the time, seemed likely to entirely transform all previous ideas of Classic or academic design in architecture and furniture. *L'Art Nouveau*, furthermore, assumed, temporarily, an absolute dominance of feeling in the design of jewelry, ceramics, bookbinding and other crafts, as well as in the graphic arts.

The style, however, could not last beyond the first bloom of its novelty, because it was illogical and basically unsound. It sought to mould form to accommodate decoration, instead of accommodating decoration to form. In two respects, it was a highly naturalistic sort of art, employing as motifs plant forms, and render-

ing these in a naturalistic manner. "*L'Art Nouveau*" was a style of flowing and sinuous lines, often graceful, but too frequently bizarre and "forced," and although naturalistic, it was also highly artificial, in that the natural forms employed were forced into illogical uses.

It is true that no previous school of design had produced works in any way similar to the creations of the "*art nouveau*" enthusiasts, even though there might be traced an accidental similarity in some free Gothic renderings of leaves or fruit. The style reached its height in France and found its most ready outside acceptance in Belgium, being too "French" for the Germans and too "emotional" for the English. It was copied, in America, solely by reason of its novelty, and without any understanding whatever of the intention of its French creators.

As a style, "*L'Art Nouveau*" comes to us to-day sometimes as a sort of joke, and nearly always as a misguided and ephemeral fantasy. This, perhaps, is not altogether fair, because, with all its faults, "*L'Art Nouveau*" had some occasional flashes of real inspiration. If it had done nothing more, it awakened an appreciation of graceful form, and of the inexhaustible possibilities of deriving decorative motifs from plant forms. One of the illustrations shows a Parisian shop front—the style, perhaps, exemplified at its best, for of all buildings, a hat shop, or a candy shop, or a small theatre, may permissably indulge in architectural frivolity. One cannot imagine a courthouse or a post-office designed along "*art nouveau*" lines, but one can readily think of instances in which the style might be acceptable and pleasing. To-day, however, it is to all intents and purposes a "dead" style, excepting in the imprint which it left on the previously Classic archi-



**AN ARCHITECTURAL CONCEPTION
CHARACTERISTIC OF THE VIEN-
NESE AND GERMAN SECESSIONISTS
AND MODERNISTS**

**This example is taken from a drawing by
the "Wiener Werkstetten"**



**AN EXAMPLE OF THE FRENCH STYLE CALLED *L'ART NOUVEAU*
A Parisian shop front thoroughly characteristic of the style**



ecture of the Beaux Arts. For it was from the brief but intense enthusiasm over the "new art" that French architects received the idea of rendering in a naturalistic vein much of their ornamental detail, as well as their tendency to give many architectural forms a certain sinuosity and often a certain frivolity.

As early as 1870 a few restless Austrian designers were experimenting in strange furniture and architecture dangerously like that of the "*art nouveau*." Gradually, however, their efforts began to take a definite form, and in the late '90's the "Viennese Secession" became an actual school of design—the forerunner of the "Modernist" school of to-day. The secessionists, as their name would imply, rebelled against what they regarded as the slavish copying of archæological forms, and sought new means of expression. Their art, perhaps, might be considered to some extent as a creed, or a declaration.

While it was a creed based on simplicity, it was a weird and strange kind of simplicity, very unlike that of William Morris, and very difficult to compare with any other art movement of any other land or period. The secessionists were as nearly "original" as it is possible to be, and their works suggest but remotely certain elusive elements of things Japanese and Egyptian. Secessionist architecture is a very different kind from "*art nouveau*" architecture; in the first, decoration is regarded as an accessory to design as a whole, while in the second, the whole design was regarded (quite illogically) as subordinate to its decoration. Radical as much secessionist work may seem, it is, in reality, distinctly conservative, for decoration is used both sparingly and cleverly, with due appreciation of the fact that its value is most emphatic when it is made

an incident rather than an end in itself. Secessionist architecture is characterised by broad, plain wall surfaces, an absence of mouldings and of all Classic or historic forms, either architectural or decorative, and by a close association of furniture, fabrics and other accessories. The consistency of the modern Austrian and German secessionist efforts is largely due to the fact that one designer creates not only the house, but its furniture and its entire scheme of interior decoration, as well, perhaps, as the layout of the gardens surrounding it.

Such procedure is highly desirable, assuming that the designer is sufficiently capable and versatile to carry out the entire scheme—the typical “Secessionist” villa, indeed, could hardly be achieved in any other way.

As in the case of any “extreme” or radical style, of any style of which the acceptance amounts to a creed, it is essential that one believes sincerely in it as such. The acceptance of any style merely because it is a “fad,” or because it seems to be “the latest thing,” is doubly deplorable, in that style and individual are both debased.

The Secessionist movement of Austria profoundly influenced modern architecture, interior decoration and furniture design in Germany, producing many works of significance not entirely measurable at the present time.

In France, the Secessionist movement found its expression in the “Modernist” school of architects and decorators. There is apparent here the same avoidance of Classic or historic forms, the same effort toward effecting broad, plain wall surfaces and strikingly “original” forms. The French Modernists, in addition, have given a strange exotic flavour to much of their work by the introduction of certain Oriental devices,

especially as derived from Persian architecture. Many "Modernist" costumes, turban head-dresses, Oriental perfume bottles and Persian textile motifs bear evidence of this interesting influence.

As might be supposed, America saw a counterpart (on a small scale, however), of the Secession, and is enjoying to-day many reflected scintillations of the French "Modernist" movement, also on a small scale. We have not, as yet, an American "Modernist" architecture to reckon with, though we have a good bit of "Modernist" interior decoration and furniture.

The great American Secessionist in architecture is Frank Lloyd Wright, of Chicago, whose work, as noted in the latter part of the preceding chapter, has extensively influenced many contemporary architects of the Middle West. The exact place of this school of architectural design has yet to be determined, and its real worth, both present and ultimate, must depend entirely upon the sincerity of both architect and client.

There is much in the best of the American Secessionist architecture which is pleasing and refreshing, while ill-studied examples show much which is too strange and "forced" to possess valid reason for existence. Design which is by way of being a departure from academic precedent, or the guidance of historic forms, is work for the master designer. No amateur should venture to attempt it, and no mere copy of work which has resulted from another's sincere conviction or personal ingenuity can ever possess a recognisable degree of merit or permanency.

Let us now turn to certain current architectural manifestations in America wherein old historic styles have been used as media of design for distinctly new types of building, and determine, if possible, how well

this has been done, and with what degree of stylistic propriety.

We have, in the larger American cities, certain highly specialised architectural problems, of which it may be germane here to present a few remarks on the modern city house, the tall office building (once called the "skyscraper"), the loft building, the gigantic modern hotel, the apartment house, and the great modern railroad terminal.

The metropolitan city house, at the outset, presents a variety of problems to the architect, many of which are not strictly architectural. He is doubly hedged about with the natural limitations of the site, and with the multitudinous "restrictions" of city building codes.

The "architecture" of the exterior, indeed, is finished when the design of the street façade is finished, and the interiors of the rooms within may be carried out in any range of "period" styles dictated by the whim of the client. An interior decorator, indeed, may be called in here to work with the architect, or to execute certain rooms independently.

Of the working relationship of architect and decorator, and the clients' responsibility in this connection, more will be said in the second part of this book.

The trend of architectural development in most of the larger cities would seem to dictate certain styles as more appropriate and in better taste than others. There are strong recommendations, for example, toward designing the façade in a modified Italian Renaissance vein, a modified Modern French, or a direct Louis XVI style, or in the manner called the "Harvard" type, of brick, with white stone trim and occasional ironwork. Surprisingly little use has been made of the Holland Dutch type, of which a remark-



Photograph by Th. van den Heuvel

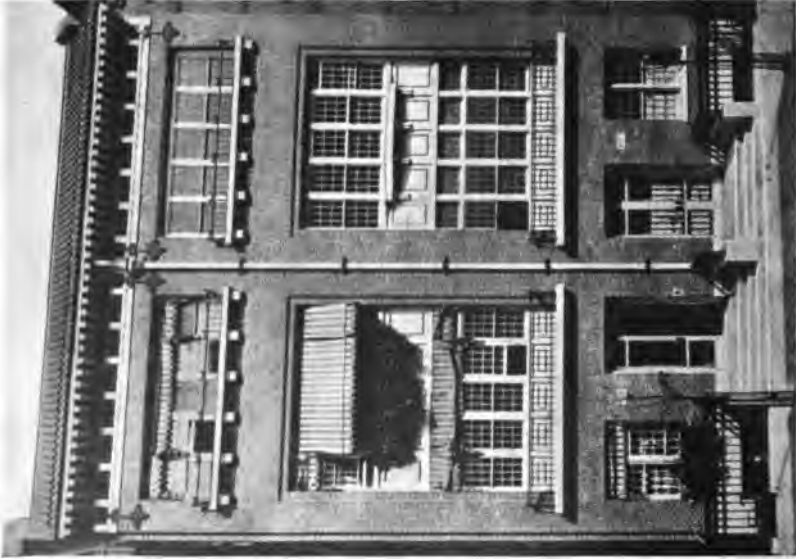
Houses on the Rue Flamande, Bruges, typical of the city architecture of both Holland and Belgium



Little & O'Connor, Architects

An American adaptation of the early city architecture of the "Low Countries." This house, in New York City, is of brick, with decorative details in brightly coloured faience. The stepped gable is characteristic

THE EARLY CITY ARCHITECTURE OF THE "LOW COUNTRIES"



Grosvonor Atterbury and Stow Phelps, Architects

**SANE IDEAS OF LIGHT AND CONVENIENCE
IN THE MODERN CITY HOUSE**

Architectural effort in recent years has given to the American city house a seemly exterior appearance and an admirable degree of interior comfort and convenience. The "street-level-entrance" house on the right shows the incomparable improvement over the old "high-stoop brownstone front" beside it



THE TYPICAL MODERN CITY RESIDENCE

ably able rendering is seen in one of the illustrations, showing a New York City residence. Fire-laws have excluded the picturesque half-timber city façade which lends so much charm to Chester, in England, and to many old Flemish, French and German streets. It is true that a half-timber "effect" could be obtained by an ingenious use (or misuse) of fire-proof materials, but the result would be palpably artificial, and consequently undesirable. At one time city houses were popularly designed in a Romanesque manner, in various strange attempts contemporaneously called "Gothic," and in more successful adaptations of the French Gothic-Renaissance transitional style of Francis First. We will not speak of the entirely odious "brownstone front," now mercifully disappearing in rows under the hands of wreckers—it was an entirely base copy (if it could even be called a copy) of an entirely debased kind of bourgeois poor taste which existed in France in the early '80's, and a repetition of its like, on either side of the Atlantic, is fortunately impossible to-day, or even in the future.

In its actual planning, as a complete organism, the modern city house is a complex affair, and an architectural problem calling for the highest order of ability and ingenuity on the part of the architect. Rooms must be provided as adequately as the restricted site will allow, with light and ventilation, servants' quarters and kitchen skilfully incorporated, a service entrance devised, and a number of such convenient innovations as self-operated elevators, dumb-waiters, laundry chutes and, of course, the plumbing and heating systems.

With all these details, only in part suggested here, the architect is now called upon to effect, as well, some

sense of "spaciousness"—perhaps in a city house occupying a twenty-five foot lot. The greatest evolution in city house planning took place with the abolishment of the high entrance "stoop" and the narrow hall within. The basement entrance plan, with the front wall of the house on or near the building line, enabled the architect to design something in the nature of a foyer or lobby, sometimes of an almost monumental or imposing nature, and occupying the whole width of the lot. Some architects, too, by ingenious economy of space in other parts of the house, have designed great two-story living-rooms or salons, of considerable length, and as wide as the lot (exclusive of the party-wall thickness)—a device most desirable in the necessarily cramped and "shut-in" confines of the usual city dwelling.

Much yet remains in the evolution of the city house—especially in connection with the architectural reclamation of back-yards, roofs, and low-extensions. There are unrealised possibilities, too, in the introductions of *patios* or small garden court-yards, either at the ground level, or sunk in the roof. The "solarium" or sun-parlor has added an attractive retreat off the dining-room of many a city house of recent design, but more still remains to be done to create, even under architecturally unfavourable conditions, more livable and attractive urban dwellings.

One speaks, here, not of the city mansion, which is an opportunity rather than a problem, but of the average and even the small city house, for of these are most of our residential streets made up.

The problem of designing the tall office building has been variously met, and often with conspicuous success. From the point of view of design, there is

required a seemly and well-considered architectural casing, or disguise, for a steel frame, the whole presenting a maximum of voids, or window openings, to a minimum of solids or wall surfaces.

The skilful manner in which the great Woolworth building was treated forms the subject of a carefully detailed discussion in the fifth chapter. Obviously no historic precedent can be followed in the treatment of a building of size more vast than the greatest European cathedral. Historic styles have been used as motifs rather than models, so that we have the Metropolitan Tower, in New York City, done in the guise of an Italian Renaissance campanile, enormously magnified, or we see an Italian arcade or a Classic Colonnade crowning a building so tall that one can scarce discern the order of the columns.

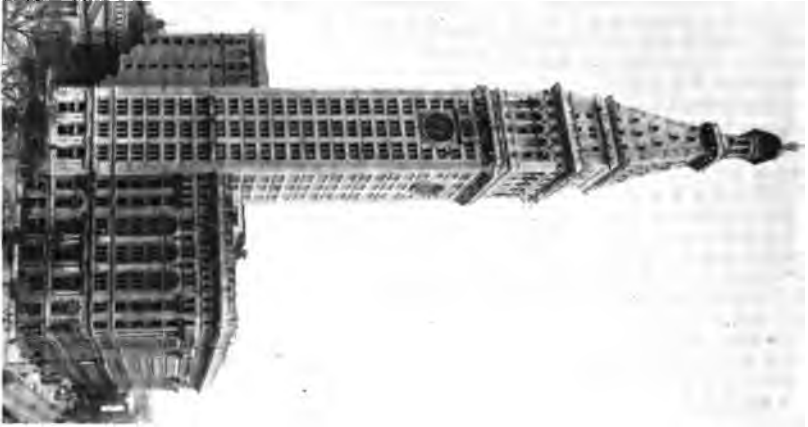
In most tall office buildings, architectural effort in design is usually confined to the first few stories above the street level, and to the upper two or three stories which crown the building. The intervening mass of wall, perforated by countless windows, is usually of uniform design, which is an expedient both logical and desirable. If architectural detail, or "interest," were spread evenly over the vast bulk of such a colossal building as the Equitable Insurance Building, in New York City, the effect would be both optically and mentally distressing. The building would seem "restless" because the eye would fail to focus itself naturally at any level, and many important values of dignity, and of something almost approaching sublimity (apparent in some of the larger commercial buildings), would be lost.

It is natural that many liberties must be taken with historic styles to fit them agreeably and urbanely to such a structure as the modern office building and a

high average of merit has been struck through the ingenuity and adaptability which American architects have shown in their designs for this essentially American type of building.

Even the lay observer should not fail to appreciate what it means to design a cornice, for example, or a colonnade *in scale* to be seen elevated forty or fifty stories in the air. The architect can contrive this detail only on paper and in his head. It may look very different in its execution and placement at a great elevation, and if we stop to consider the exacting and really tremendous nature of the problem, we must come to realise that an architect deserves more credit for the successful design of a tall building than for the successful design of a beautiful country house. The country house, perhaps, could not be more agreeable to look upon, while the great office building, if only by reason of its bulk, could easily have been a vast and grievous architectural affliction, and is not, even at its best, so humanly appealing as the country house.

Another modern American architectural problem, in some respects a problem more exacting than the tall office building, exists in the "loft building." Here is a structure intended for purposes entirely utilitarian, a city building perhaps twenty stories in height, designed to house on each floor some manufacturing industry or some commercial organisation. Two factors have militated against the attainment of a high degree of architectural merit in the loft building—speedy erection and economy in expenditure—yet the architect has often produced an edifice by no means despicable, or to be dismissed as unworthy of the attention of the architectural observer. The loft building cannot be made a thing of beauty, but good design,



Photograph copyright by Underwood & Underwood
N. LeBrun & Sons, Architects

**THE STYLE OF ITALIAN RENAISSANCE
IN A MODERN APPLICATION**

In the design of the American office building, historic styles have been used as motifs, not as models
(The Metropolitan Building, New York City)



Photograph copyright by Underwood & Underwood
Ernest R. Graham, Architect

**A COLOSSAL MODERN AMERICAN OFFICE BUILDING IN
NEW YORK CITY**

Great edifices of this type have called upon the American architect for efforts in which considerations of architectural design have been overshadowed by vast structural and engineering problems
(The Equitable Building, New York City)



Warren & Wetmore, Architects

THE HOTEL VANDERBILT, NEW YORK

A typical hotel building of the modern American type—a gigantic fire-proof structure equipped with every practical convenience, and detailed and furnished in the Eighteenth Century English style of the Brothers Adam

within the inevitable limitations presented, may keep it from being a thing of absolute banality. Unlike the tall office building, the loft building is one of many on a street, and may be lighted only from front and rear, with possible additional light from a shaft designed to the purpose. Consequently, any architectural "character" which is attempted in the design can be apparent only in the front elevation, or street façade. Usually the entrance to the building and its crowning story are architecturally treated, the intervening stories being entirely given over to necessary window space. If no adjacent buildings of comparable height exist, the loft building perforce must rear two great blank side walls, towering far above the rows of three- and four-story buildings below it. Ordinarily these blank walls remain for years, adorned only with large painted signs proclaiming the names and businesses of the tenants of the several floors, though in many notable instances the architect has made this vast wall surface strangely interesting by devising upon it titanic designs formed by the use of two different-coloured bricks. In a few years a loft building of equal height may occupy both sites adjoining, but in the interval previous to their erection, these gigantic brick patterns loom up as an interesting and commendable expedient.

No visitor to a large American city, especially a visitor to New York, could fail to be impressed by the modern hotel edifices, even though their towering structures may fail, through familiarity or feigned indifference, to impress the metropolitan individual who passes daily under their great shadows, or eats frequently in their gilded dining-rooms.

The modern American hotel, besides being a marvellous organism as a hotel, presents several unusually

interesting angles for amateur architectural study, both inside and out.

As an organism, indeed a microcosm, we see conjoined under one vast roof a combination of devices human, mechanical and æsthetic, all planned to effect pleasure and comfort to the guest. Since the present consideration must deal entirely with the architectural aspect of the great metropolitan hotel, we must perforce dismiss its many other interesting features.

American hotel architecture emerged from absolute banality at about the time of the general architectural awakening of the country, and after the erection of the Waldorf in New York City, the prevalent "hotel style" followed suit, taking the form of a composite adaptation of the French styles of Louis XIV, Louis XV and Louis XVI. Structures were reared more enormous in bulk than the greatest French palaces or châteaux, and hotel interiors were made magnificent and sumptuous to a superlative degree by the use of ornamental marbles, mirrors and gilt.

The adaptation of this "magnificent" style for the large hotel has been severely but not intelligently criticised by many, on the ground that it is vulgar and ostentatious. It should be remembered, however, that the large city hotel is a building with a definite intention—it is intended to attract, impress and, if possible, flatter the travelling public. It cannot be denied that regal French architecture attracts and speaks in a universal language to all beholders, symbolising opulence, richness and a certain kind of social distinction. It has a splendid self-assurance, even if it may be said to lack repose. And for these same reasons it is impressive. Hotel managers were quick to appreciate the fact that architecture is one of the most *theatrical* of

the arts—that a certain impression may be more readily received, even though unconsciously, by a greater number of people through the architectural guise of the building than through any other means. Thus, the great marble lobbies, the gilded dining-rooms, the vistas of mirrors and palms in the modern hotel are but theatrical scenery, devised by the manager to make his venture a success, and the people eating, promenading or dancing in this intentionally gorgeous environment are the unconscious actors.

To eat in a richly decorated Louis XIV dining-room, although one may care not at all for the style in itself, is to receive unconsciously some small reflex sensation of “the grand manner.” Call the feeling by whatever other name he will, the average person is flattered by the environment—he treads in the footsteps of great shadowy royal personages and courtiers of the past, and cannot escape a distinct impression of elation or gratification.

For these reasons, which are psychological rather than architectural, these French styles which were elected to make up an elaborate composite which might be called “hotel architecture,” are to be regarded as an excellent choice for their purpose. Hotel architecture, to be sure, is superficial, yet this is natural when it is considered that its appeal must be instantaneous, and keyed to attract and please a great variety of people, averaging a not very high degree of architectural discrimination.

Further evidence of the desire to please on the part of the hotel management is to be seen in the diversity of styles often found in the interior decoration of a single hotel, as well as in the “special” rooms which are constantly offered to meet the continuous public

demand for "novelty." One will find a Louis XIV dining-room, a "Marie Antoinette" tea-room, a ball-room resplendent in Louis XV rococo, and an "Old Nüremberg" rathskeller, or grill-room downstairs. Greater diversity may be offered in the form of an "Egyptian Room" or a "Pompeian Room"—yet the charge of "inconsistency" must fall flat when it is remembered that these things are devised to entertain, just as a varied musical program is devised to entertain. Very often these special rooms have been carried out with the highest degree of architectural ingenuity, and, taken separately for what they are worth, may offer much interesting study to the lay observer, if he will look about him between the dinner courses.

A great many vast hotels, not only in New York, but in Philadelphia, Chicago and other cities, were designed mainly in French styles, until a new element entered the field of hotel design. And, to instance forcibly the ever-present close relation between architecture and human thought, this element came in as a reaction against the prevalence of the hotel ideal of "magnificence." There was substituted a new ideal for hotel architecture—an ideal of restraint, combined with an expression of that refined correctness which the English call "smartness."

Architecturally, the great hotels of the French type had achieved prodigies of design. Such hotels as the Plaza, in New York, and the Bellevue-Stratford, in Philadelphia, reared vastly magnified château roofs high above all surrounding buildings. Again, as in the tall office structure, historic styles were used as motifs rather than models. The architect endeavoured to approach his problem as it would have been approached

by the Eighteenth Century French architect, had he been required to design a similar structure.

For the architectural expression of restraint in hotel design, however, a remarkable choice of style was made, and the firm of Warren and Wetmore achieved a brilliant success in their adaptation. Previously to the erection of the hotels Ritz-Carlton and Vanderbilt in New York City (the first of the new type), it would have been difficult for us to conceive of the delicate, minnte Eighteenth Century English style of the Brothers Adam applied to an enormous hotel edifice. The Adams for the most part were designers of furniture and of chaste interiors—they were not distinguished as the authors of large projects.

It was desired, however, in the newest hotels, to carry out Adam interiors. A revival of Adam furniture and decorations had become the fashionable vogue, and it was surmised that hotel interiors in the Adam style would be immensely popular. The conflict between the classic dignity of the Adam style within, and the diversified French type of hotel without, could not be thought of, so a seeming architectural impossibility was essayed—an adaptation of the Adam style to the exterior design of buildings more vast in their proportions than all the four brothers together could have conceived.

That this remarkable *tour de force* was successfully achieved is evidenced in the great Hotel Vanderbilt in New York City, a brilliant example of adapted architectural style. The exterior, in brick of "Adam grey," trimmed with cream-coloured terra-cotta details, is an admirable introduction to the quiet interiors within—but few of the many who daily enjoy themselves in this great New York hotel stop to reflect that it is a remark-

able architectural achievement, studied as an adaptation of an historic style for the rendering of an essentially modern type of building. Some other large hotels have been designed in free adaptations of Italian Renaissance architecture, while within, the visitor may study modern American versions of many other styles of various periods and various lands.

In few other types of building have architects drawn diverse inspiration with such spontaneity or freedom as in the modern hotel, and it is a great mistake to suppose that these remarkable edifices are of a nature too "superficial" to afford a volume of peculiarly interesting material for study.

A distinctly modern and distinctly American type of building is the large apartment house—and here may be said to exist an architectural opportunity by no means fully realised to date. There have been some admirably designed apartment houses, it is true, but by far the greater number suffer from commercialism, both inside and out. There has been an unfortunate tendency, still prevalent, to concentrate a great deal of the expenditure and architectural effort in effecting an imposing entrance and an impressive hallway, these features carried out with an air of opulence and even magnificence which give a false impression of the actual building itself. This effort to create a fine impression at first sight is obviously nothing more than a lure for new tenants and an excuse for maintaining high rentals, when the actual apartments themselves are meanly planned and poorly built. The apartment house has suffered much from this palpable deceit and it is rather surprising that even the average prospective tenant will not look more closely at the quality of the floors in the suite of rooms he is to rent, or at the carpentry

of the woodwork and disregard as immaterial the pretentious display of marble, plate-glass and gilded plasterwork in the downstairs hall.

Despite its many architectural drawbacks, however, the apartment house has improved considerably in recent years. There are better plans, more practical conveniences and far better design in such details as mantel-pieces, wainscotings and the like, even in the apartment of moderate rental.

Real architectural ability is apparent in the design of some of the great apartment houses of high rental, as well as in many which are co-operatively owned by the tenants. A promising departure was marked by the "duplex" apartment, in which a sense of spaciousness was effected by devising for each apartment a large two-story living room, like a studio. The other rooms of the apartment, instead of being inconveniently arranged on one floor, are disposed on two floors, with private connecting stairway, so that each duplex unit is, in fact, a miniature house in itself.

The study of the apartment house problem and its many different solutions might well form the subject of exhaustive consideration, but no more can be done here than to suggest the great benefits which might result from a greater prevalence of co-operative building, and to remind both landlords and speculative builders that the alluring front door to the apartment house is becoming constantly of less significance. A handsome entrance is very well if it is a true indication of the architectural quality of the entire building, but if it is nothing more than a lure, it is a poor investment. It may attract new tenants—especially the young and inexperienced, but it will not cause them to renew their

leases if the actual rooms in which they live are inconveniently planned and meanly built.

In building an apartment house, which from its nature, must be a profitable investment, cheap plans will be found a poor economy. Hotel managers realise that their building, above all else, must please the public, and they go to architects of recognised high ability. In any type of building designed to rent, architectural appeal and architectural merit should be practical considerations of great importance. Of the "real estate development" more will be said in a subsequent chapter.

Among architectural types which are essentially modern, the great railroad terminal is a peculiarly interesting one, and has been a problem to which American architects have devoted considerable study.

It is doubtful if any similar building in any country possesses the architectural significance of the terminal of the Pennsylvania Railroad in New York City. The stately colonnade, the vast interiors, achieve a quality of nobility in architectural conception which ranks with the greatest masterpieces of European architecture. Architecture here fills a dual function, in a building laid out in such colossal proportions that passenger congestion is impossible, while its splendid magnitude impresses every traveller with a sense of the prestige and the grand scale of the railroad to which he is entrusting himself. A building of this character is a long departure from the dingy and oppressive "train shed" of earlier times. A building of the character of the Pennsylvania terminal is more than a building—it is a symbol, perhaps as much a monument, in this respect, as the Pyramids of Egypt.

The New York City terminal of the Grand Central



McKim, Mead & White, Architects

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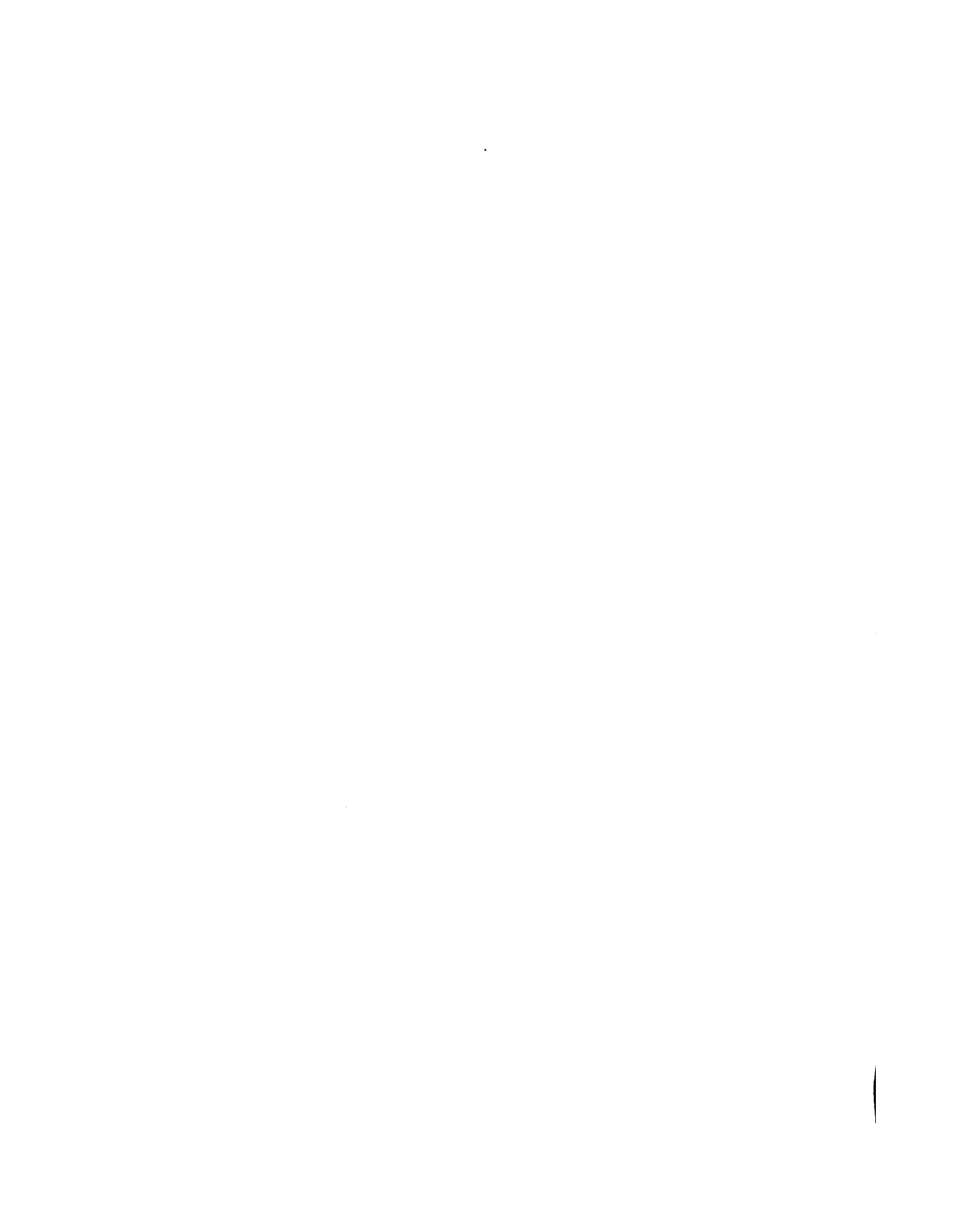
CLASSIC ROMAN DERIVATION IN A MODERN AMERICAN RAILWAY TERMINAL
An exceptional example of an architectural expression of dignity
(The Pennsylvania Railroad Terminal Station, New York City)



Warren & Wetmore, Architects

Photograph copyright by Underwood & Underwood

FRENCH BEAUX-ARTS INFLUENCE IN A MODERN AMERICAN RAILROAD TERMINAL
This façade affords material for a comparison of the respective architectural expressiveness of the modern French school of design as opposed to the strict Classic school of design
(The Grand Central Railroad Terminal Station, New York City)



railroad is interesting from other viewpoints—as an example of the modern unity of architecture with complex problems of engineering.

The façade of this great station proclaims at once the *École des Beaux Arts*—a symmetrical composition, Classic yet not Classic, and embellished with detail which is entirely French. Characteristic of such modern French architecture is the marked disregard for careful proportions, shown in the greatly out-of-scale allegorical figures over the central broken pediment. This alone would destroy the dignity of the whole—an excellent comparison, indeed, being afforded in a study of this Grand Central terminal and the Pennsylvania terminal—*Beaux Arts* freedom versus Classic restraint. Both are symmetrical façades, both are buildings designed for the same purpose, yet their respective architectural manners make them buildings of widely divergent character.

The most interesting aspect of the Grand Central terminal is the complexity of its planning, necessitated by the fact that it is entered by the tracks of two very busy railroads, as well as by the Interborough Subway. There are, consequently, several different track-levels, with their several concourses, waiting-rooms and ticket offices. As a practical consideration the architects provided that clearly readable legends be lettered at every point where the traveller might need direction, while further confusion is saved by the introduction, wherever possible, of ramps instead of stairways. On a ramp, which is a long, gently sloping runway, or platform, a crowd can move far more quickly than on a stairway, and it is possible, also, to run for a train up or down a ramp. It is probable that ramps will take the place of stairways in many of the public build-

ings of the future—in buildings of which even such remarkable structures as these two great railroad terminals are but forerunners.

We live in an age of “many inventions”—new structural devices and systems appear yearly and make possible the erection of buildings which were unthought of in the past. Obviously no one but an architect may be familiar with these technical innovations, but the lay observer who has become acquainted with architectural styles, together with some elemental principles of design, cannot but find much to interest him in the new architectural achievements which yearly add credit to the profession in America.

PART II
A PRACTICAL GUIDE TO BUILDING

CHAPTER I

THE SELECTION OF LOCATION, STYLE, MATERIAL AND ARCHITECT

STYLE FROM VIEWPOINTS OF RELATION TO SITE, MATERIAL, GENERAL APPROPRIATENESS, ETC. LOCAL MATERIALS AND LOCAL COLOUR CONDITIONS. FORESIGHT AND ADVICE. CHOOSING AN ARCHITECT

IN connection with building, more, perhaps, than in any other connection, is there deep significance in the familiarly trite saying: "A little knowledge is a dangerous thing." To be accurate, indeed, the ill-arranged ideas of most prospective builders cannot even be regarded as "knowledge." If they *knew*, much disappointment might be saved—it is rather that they *think* they know either enough to build without any architect, or to set themselves above the architect they actually engage to do the work. "A little knowledge" is dangerous because it is usually ignorance in disguise, and ignorance which will not be helped. Complete and honest ignorance frankly calls in the aid of the professional man.

It is the aim and intention of the following chapters to point out, in a building project, in what respects individual discretion may be employed to advantage, and in what respects professional opinion had best be followed. Certain things are matters of opinion, others are matters of fact. Even in the first group the architect's opinion is usually to be regarded as better based than an unformed lay opinion, while in the second group, the absolute futility of argument should be apparent.

The points taken up in the following chapters will be arranged in the sequence dictated by the usual procedure in building a house, and each step will be dealt with in a practical manner. The practising architect is distressed to find that much of the so-called "advice" to persons about to build is arbitrary, erroneous or misleading, so that he is obliged to devote considerable effort and time toward disillusioning his client and establishing a ground of common sense and clear vision. Of this, more will be said in subsequent observations on the relation of architect and client.

The usual private building operation does not call in the architect until certain very important things have been decided. The site of the house, for instance, is often pre-determined by the ownership of a piece of land. The architect might well be called in to suggest the best architectural location for the house, but very frequently he is not consulted on this question, or on the question of what style is to be followed in the design. These things are usually the architect's starting point, though in many cases it would have been well for the client to be professionally advised from the start. An architect's *opinion* as to what kind of a house would be best suited to a given site might be well worth hearing, and might result in a better solution of the problem.

Varying sites call for different ways of locating the house, and here, at the outset, is a case in which anything resembling a fixed rule might easily be very dangerous to follow.

It is of the greatest importance to give careful consideration to the points of the compass and to prevailing local winds, and to consider these as factors in the design of the house from its inception. If the site is a remote one, far from "improvements," the questions

of lighting, water-supply and sewage disposal should be at least considered before there is detailed thought of "style." Although "style" is to the lay observer the most conspicuous of the architect's performances, it is relatively less exacting from the architect's point of view than many of the more technical problems he is required to solve.

If an architect has been selected at this stage, and has visited the site, and the location of the house, as exactly as possible, has been determined, it is well for a number of good photographs to be taken, or, in the case of a large and important house, an accurate topographical survey made and drawn. In this way the architect may study the different grades or slopes which will govern certain parts of his design for the house.

The ideal procedure is to use the topographical survey as data for the construction of an accurately proportioned clay model of the site. On this model it is possible to lay out driveways and approaches, and even to block in the house itself, in miniature, in its exact relation to the place it is to occupy. The study of an architectural project by means of a model is of the greatest value to architect and client alike. To the first is given a more comprehensive and definite vision of the problem, and to the second is given a presentation of the architect's conception of the relationship of house to site more vivid and understandable than he could possibly obtain from any number of drawings.

It is well to mention here that the topographical survey of the site, being a civil engineer's or surveyor's work, is not a part of the architect's work, and is paid for separately, either through the architect, or direct to the surveyor. It is to be regarded as a means for arriving most directly at the required result—the estab-

ishment of the exact relation of house to site, as well as the disposition of drives, approaches, terraces, out-buildings, etc.

The construction of the model is usually undertaken by the architect, or under his direction, and a separate charge should rightly be expected for it, since it involves a considerable amount of special work.

It should be apparent without great emphasis that the location, of placement, of the house on its site is extremely important. Many well-designed houses have given an appearance of unpleasing awkwardness solely because of the fact that they have been poorly placed with relation to the natural features of their sites. On the other hand, many houses of low cost and of little architectural pretension have seemed peculiarly agreeable because, on observation, it will be seen that every advantage has been taken of elevation, grades, approaches and background.

Architecturally, as well as naturally, the most pleasing building is the building which is in the most graceful harmony with its site, and the prospective builder may often do well and wisely to banish from his mind some preconceived idea he may have had, if the execution of this idea would result in an unharmonious relationship of house and site.

The question of site is often involved in the question of style, any formal type of building calling for a level site, while the rugged hill-side site is best suited by an informal or picturesque type of building. Style, when all is said, must always be a matter of personal predilection. To say that no formal house should be placed in rustic surroundings is to ignore the ultra-formal French hunting-lodges and châteaux which are often discovered in densely wooded tracts. The



Mellor & Meigs, Architects

**AN AMERICAN DERIVATION FROM THE MODERN ENGLISH TYPE OF
COUNTRY HOUSE**

A harmonious relationship between the house and its level site has been effected by the horizontal lines of the garden walls



AN AMERICAN COUNTRY HOUSE ESSENTIALLY PICTURESQUE

Successive additions to this charming hillside cottage have made it, with the aid of informal stone steps and terraces, a part of the steep site it occupies



W. G. Rantoul, Architect

A MODERN COUNTRY HOUSE ESSENTIALLY AMERICAN
Early New England houses, as well as those of the first Dutch settlers, have combined in furnishing the precedent



Albro & Lindberg, Architects

A SMALL COTTAGE OF NATIVE DERIVATION
The inspiration here came directly from the early Dutch farm-houses to be found in the portion of New York State in which this cottage was built

château, it is true, is usually blended with its woodland surroundings, like the Italian villa, by means of formal gardening. It would seem that the house, from the point of view of style, is best considered in the light of an *architectural background* or setting for the people who are to occupy it. If one intends to live and entertain in the country in a formal and rather elaborate manner (whether or not this is to be regarded as desirable), certainly the picturesque and informal house would not be the most effective setting. If, on the other hand, one's idea of country life is of the simple and unaffected kind, most characteristically English and American, a formal French château would prove a miserable disappointment, and architectural success would depend, rather, upon an architectural rendering of comfortable informality in terms of the picturesque.

And so for every prospective builder, from the individual of ultra-formal tastes to the ultra-simple "next-to-nature" enthusiast, there is a suitable type of dwelling which will reflect his tastes through the medium of an appropriate architectural setting. No fixed rule is possible—the essential of suitability is too flexible and too much a matter of the individual case. It is possible, however, to submit a few generalities which might be borne in mind, either in those cases where the prospective builder has no predilection for a specific style, or where it might be highly desirable for him to change his mind.

One may contemplate building in a certain locality which possesses a marked architectural "character"—for example, a small New England village. Here, as one drives down the old elm-shaded "main street," there may be seen houses which all conform to a certain type. They are simple, wooden houses, usually of white

clapboards, with green blinds, and the intrusion of a distinctly alien type of house can only be regarded (locally, as well as in the abstract) as an offence against architectural harmony and against good taste. Consider, in this light, the erection in such a locality, of a Spanish mission house, with stucco walls and a bright red-tiled roof, and outrageous as such an architectural *faux pas* may seem, it is no worse in any way than many which have accosted the writer's eye. It is safe to say that the newcomers would have earned the general disapprobation of the natives for miles around, long before they actually moved into their new and inappropriate premises.

The isolated house may be designed to conform with any stylistic whim, but in an instance where there are adjacent houses of some degree of architectural conformity "bad taste" rather than "individuality" is expressed by the intrusion of a building which is out of keeping. In an earlier chapter this point was brought out in connection with the choice of style for an American village church.

No local style is so mean or so devoid of possibilities that architectural ingenuity may not develop a thoroughly satisfactory rendering in which that style is the main theme.

As in the case of a well-designed house appearing to fatal disadvantage by reason of its failure in relation to its natural site, many well-designed houses (well-designed in themselves) create only a sensation of acute displeasure when they are seen in a locality in which they do not belong.

Having observed, then, that architectural style should often be governed by natural site and by local architectural prototypes, we now find that styles should

often be influenced by the nature of local building materials.

As an obvious generality it is safe to say that no materials are more suitable to a given locality than those which are found in that locality, and in this connection we will soon find that this has a distinct bearing on economy.

It will be found that local building materials have influenced local architectural styles, to a minor degree, or conspicuously, and so we find both material and style, interlinked each with the other, forming a dual alliance to resent the intrusion of the building which is transplanted from some alien locality.

Usually, and in a perfectly natural way, local materials are best adapted to local styles, because they have been a factor in the development of those styles. Specific types of building, those types associated with certain specific periods and countries, demand a rendering in certain materials, as will be more fully discussed in a following chapter. If such materials are entirely alien to the locality in which it is proposed to erect the building, the prospective builder will do well to recast his ideas and endeavour to arrive at some type which will prove more suitable.

In New England, for the most part, grey, weathered fieldstone is abundant. Skies are often grey, the earth is grey—the entire landscape is a harmony of low tones. Consider, then, on a grey New England coast, a house of red brick, starting up from the ground like a conflagration, or a white stucco “Mission” house, a spot on the landscape as glaring as a newspaper carelessly thrown on a green lawn. Such extreme cases, and many less conspicuously outrageous, should convince the intelligent and thoughtful builder that even a deep-

rooted predilection for some unsuitable type of building had best be discarded, even with temporary regret, in favour of a building which will be appropriate, and will possess, in addition to its architectural merits, the lasting merits of logical choice and decent good taste.

Up to this point, the prospective builder may have sought no professional advice. He has bought or otherwise acquired his real estate, he has formulated in his mind, either vaguely or definitely, some ideas of the location or placement of his house on its site, and he may have some ideas, as well, regarding architectural style and the materials of which he will build. With his wife, he may even have outlined on paper some "plans," embodying his wishes and intentions as to the interior arrangement of his new abode.

Some wit who was obviously a consummate master of words once said that "The man who is his own lawyer has a fool for a client." Disregarding exceptional instances, the same is peculiarly true if one substitute another profession, and state that "The man who is his own architect has a fool for a client."

Before giving consideration to the different ways in which the architect is usually, or is best, sought by the prospective builder, it might be well to point out a few of the more serious reasons why it is both undesirable and unwise to attempt any consequential building project without competent professional advice. Reasons for this will become increasingly apparent as this and the subsequent chapters proceed.

The prospective builder will find himself handicapped throughout by a general ignorance of details, and will be daily confronted by problems on which he had not reckoned. If his time be valuable, he will find that he has spent far more in his own time than he

would have been called upon to spend on his architect's commission, and, if economy had been his motive in being his own architect, he would indeed find he had "a fool for a client."

Lacking specific knowledge of different makes, qualities and grades of lumber, brick, plumbing fixtures, lighting fixtures and hardware, he will find himself entirely at the mercy of the contractor, who will be his only advisor.

Furthermore, his friends, as soon as they learn he is about to build, will heap upon him a mass of gratuitous "advice," and as most of their warnings or recommendations will be found to be conflicting, he will have no one to authoritatively reconcile or appraise the various things he will have been told.

With no working drawings, great difficulty will be encountered when the contractor or builder comes to "take quantities" in order to procure the materials, and again, when these have been procured the unfortunate amateur will have no knowledge or experience to guide him in the matter of passing upon their quality, or upon the quality of the workmanship. Nor, with any definite and binding specifications, will he have any means of enforcing the use of certain specific materials or fixtures which he wishes used in the work.

Throughout the progress of the work he will constantly be asked questions by the contractor, and most of these he will naturally be unable to answer intelligently, if at all. On the whole, he will come to realise, before he is through, that the architect (with whose actual offices he had not been familiar) is something more than a man who "makes blue-prints."

Before employing an architect, however, there are several questions which the prospective builder may

properly look into. We will assume that he has determined, with some degree of certainty, the location of his house, the general style in which he wishes it built, and the materials of which it is to be constructed. He will have determined, also, the amount he expects to spend on the project, and he is ready to consider the actual plan, or arrangement of rooms. Here he will do well not to attempt to be too specific, because his architect will later show him many economies and savings, not only in space and convenience, but in dollars and cents. Few amateur planners, for instance, remember that plumbing fixtures, from cellar to garret, should be kept as nearly as possible in vertical alignment, to save unnecessary feet of pipe. Nor does the amateur planner usually think of heating, or of avoiding rooms and halls which will be difficult or expensive to keep warm. Owing to lack of experience in visualising several floors of a house at once, the amateur finds it difficult to arrange the several floor plans consistently and economically. Impossible stairways are a common feature of amateur plans—the architect lays out a well-studied disposition of the first floor and plots the second floor over it, on tracing paper, so that lines of plumbing coincide, bearing partitions come into vertical alignment, and stairways practically reach from one floor to another.

Therefore, the *general idea* of the plan may be sketched out, but it is well to remember that no matter how clever it seems to be, it will be vastly improved and will be made practical as well as ideal after the architect has studied it a little.

Before consulting the architect, the prospective builder might well equip himself with a little information regarding local conditions in the locality in

which he is to build, unless he expects to engage an architect who has already erected a number of houses in that locality.

By "local conditions" are understood such matters as local labour and local facilities for obtaining materials. If labour must be brought from a distance, to an isolated site, greater cost is to be anticipated than if there are local stone-masons, bricklayers, carpenters and plasterers competent to perform the work. A few inquiries in any neighbourhood will readily acquaint the prospective builder with this important item in his project. The cost of the house will also be governed by the nearness or remoteness of lumber-yards, brick-yards, sash-and-blind mills, planing mills and a railroad siding or freight depot.

Many people make the mistake of regarding these points as of minor importance, and as a result are puzzled, disappointed and sometimes (unfortunately) suspicious when they find that their house, in all respects similar to one clipped from a popular magazine and said to cost \$12,000, proves to cost \$18,000. The house shown in the magazine may have been built under generally favouring conditions of availability of labour and material, but this very important factor in its cost may not have been mentioned in the captivating legend printed beneath the picture.

Little, if anything, has been written concerning unprofessional advice, those warnings and recommendations mentioned before, and always generously forthcoming from various sources. These "advices" have ruined many a fair building project which might have gone smilingly forward to happy completion, and have hampered and annoyed the architect more than words can express, nullifying many of his best efforts, and

setting at naught many of his most valuable recommendations. Unprofessional advice most often takes the form of a warning—one will be advised not to install casement windows because they leak, and it will be found upon investigation that the man who has issued this pronouncement does so because, unfortunately, he has had a *poorly designed* casement window. And so it is with all building materials and equipment—different people have had unfortunate experiences because of poor or unskilled workmanship, and have hastened to misplace the blame, with greater vehemence than intelligence. Virtually all materials and devices used in building are susceptible to perfectly satisfactory use and application under competent direction, just as all may be made to appear defective or undesirable by misuse or misconstruction. A can of paint, properly mixed, may give years of splendid service under hard climatic conditions: the same can of paint, mixed for use by a stupid or incompetent painter, may flake or crack in six months. The example is intended to show how little real value should be attached to unprofessional opinions in matters related to building. No man is infallible, but it should be reasonably apparent that an architect is a more competent authority than a banker or a doctor on the wearing qualities of a weather-paint or the formula for foundation concrete.

Occasion will arise in the following chapter to comment further on the fallacy of paying serious attention to unprofessional advice.

It is well, by all means, for the prospective builder to consider all the preliminaries, such as the choice of site, the style of the house and the general disposition of the floor plans, with his wife, rather than to bring her into the consultation after the architect has begun his

work. The two who are to live in the house should be in perfect agreement upon its essentials before a third party is called in to discuss the details. In building, the result of which is permanent, and expensive to alter, it should certainly be apparent to all that common sense and economy are served by as much foresight as possible. Virtually all the features of a house which prove "unfortunate" after it is built might have been entirely eliminated by a little thought at the beginning. The mere question of which side to hinge a door can readily be determined on the plans—an instance coming to mind wherein the mistress of the proposed house went over the plans very carefully, and imagined herself going about from room to room, opening the various doors. She followed, also, the course of the maid answering the front door, and assured herself that the communication was efficient and convenient. She imagined herself a guest, and studied the relation of the guest rooms to the bath-room, and, in short, "inspected" the house before its first foundation stone was laid. Such consideration of house plans is practical, efficient and highly desirable, and is entirely different from biased insistence on some arbitrary and ill-advised idea. No architect will resent or ignore intelligent or reasonable criticism and discussion of his plans—it should be remembered that he is, primarily, bent upon pleasing his client, rather than upon devising a house to suit himself. If he insists upon any point, it is usually in his client's best interests—a satisfied client is an architect's best advertisement, and almost his only advertisement.

Mentally equipped, then, with some idea of the unimportance and lack of weight to be accredited to unprofessional advices, and with some idea of the manner in which he will consult with his architect, the

prospective builder is ready to select his architect—a quest upon which he usually embarks with profound ignorance and dark misgivings.

In general, he should know that the architect is a human being, like himself, and is a professional man, like his doctor or his lawyer, with a dash of the artist thrown in. It is deeply unfortunate, both for the prospective builder and the architect, that there exist such strange and entirely unfounded ideas about the architectural profession. Few people even realise that it is a profession, with a code of ethics and a standard of procedure as definite as the profession of law or medicine. Of the nature of the architectural profession, however, more will be said in the following chapter.

There are many ways of selecting an architect, and the most natural way will usually prove the best. The prospective builder may be personally acquainted with an architect and with his work—the selection here would be obvious. An architect may be highly recommended by a friend for whom he has built a house. If no such personal point of contact exists, the prospective builder will do well to follow closely the current periodicals which deal specially with the popular side of building. Here he will see many houses of many types, and he may be right in inferring that an architect who has designed a house which attracts him, or which closely resembles the house he has in mind, will be a wise choice for him. Another good basis for choice may lie in the observation of a number of houses in the locality in which it is proposed to build. The architect who has built the greater number of these will usually prove a safe and expedient choice because he is well known, is thoroughly familiar with all local building conditions, and has trained the local contractor and artisans to work in



Barry Parker and Raymond Unwin, Architects

SIMPLICITY AND CHARM COMBINED IN A SMALL ENGLISH COTTAGE
Modern English domestic architecture should teach us much in such details as windows and doors, as well as in such charming ideas as this miniature entrance court



Berry Parker, Architect



Geoffrey Lucas, Architect

TWO TYPICAL EXAMPLES OF THE MODERN ENGLISH "DETACHED HOUSE"
English domestic architecture of to-day should prove to us that even the smallest house may display much merit in its design

unison with him, and to perform work strictly in accordance with his specifications and directions.

If the prospective builder is a believer in extremely cautious procedure, he may do well to carefully inspect some house built by the architect he is considering engaging, and may carry caution further by interviewing a previous client, and by investigating the architect's standing in the same way he would investigate the standing of any business man.

Mention might be made here of the American Institute of Architects, a national organization which was founded for the purpose of standardising the practice of architecture and enforcing the strict observance of certain professional ethics. The Institute has Chapters in all of the larger cities of the United States, and members are admitted only when recognised to be of eligible ability and integrity. Members must observe all the regulations and the "Canon of Ethics" laid down by the Institute, or forfeit their membership. In the choice of an Institute architect, therefore, it is apparent that a prospective builder has, at the outset, a certain guarantee regarding the questions about which he may have been most apprehensive, and he has, as well, an organisation to which he may appeal any procedure which may seem seriously unprofessional or unethical.

It must not be supposed, however, that there are no able or reliable architects who are not members of the American Institute, for they exist in great numbers everywhere—architects comparable in every respect with Institute members of long standing.

In most cases where architects practise their profession in partnership, it will be found that one member of the firm is a "practical" man, attending to the super-

vision and specifications, while the other member is the "designer," a man with keen artistic instincts. In a firm of three architects, the third is often found to be an executive, or a man of marked business ability.

Many architects practising alone, however, take care of all three phases of their profession, as well as other aspects of which the client is not even aware. Of his varied and interesting functions, however, more will be said in the following chapter. All architects of large practice, whether working in partnership or alone, find it necessary to have in their employ highly able specialists in different branches of the work—superintendents, specification writers and structural experts, in addition to a staff of draughtsmen, directed by a man upon whom devolves a great weight of responsibility and detail—the head-draughtsman.

Having emerged from the mists of misgiving and uncertainty, and finally selected an architect, the prospective builder now becomes a "client," and is in a way to see his visionary abode definitely put on paper, later to arise before his eyes in all its solidity and permanence of masonry and carpentry. The venture is finally launched, and the following chapter will deal with the business relationship which has been created by the architect's engagement, and with the proper observances which should exist on both sides.

Before entering upon this important topic, however, the writer feels that the present chapter would be incomplete without some advice upon the selection of an architect for building projects other than dwellings—for such projects as civic buildings, schools, hospitals, clubs and churches. Here the choice of an architect will result from the decision of a committee or the award in a competition. A word about competitions.

An architectural competition, intelligently conducted, will secure for a given building fairly and conclusively, a design as nearly as possible the best: unintelligently conducted an architectural competition is the most stupid procedure conceivable.

The American Institute of Architects has devoted a great deal of study to the subject of architectural competitions, in an effort to standardise the procedure of committees and municipalities, and to secure the best possible results in the erection of important buildings. The results of this study, in the form of a set of "rules governing competitions" to be observed by Institute members, was printed in brochure form, and is readily obtainable by writing to the Secretary of the American Institute of Architects, Washington, D. C.

Nearly all the important public buildings of this country are the result of competitions, and in most cases a number of the more prominent firms have been invited to submit drawings, according to a program of requirements drawn up by a committee. An invited competitor is usually nominally remunerated for his work, whether or not successful.

In the important civic building, then, such as a library, museum or city hall, the municipal committee in charge of the project will do well to avail itself of the carefully studied procedure outlined by the American Institute of Architects.

In the matter of making awards, many mistakes have been made by placing the power of award in the hands of a lay jury—a proceeding which ought to appear as absurd as it actually is. There should be at least one competent architect on the jury of award, for it will prove absolutely essential for some informed person to explain the drawings to the lay members

before any intelligent conclusion as to respective merit can be reached.

This is true, also, of the formation of committees and juries in connection with clubs and churches. The board may consist of several citizens who are entirely unfamiliar with architecture, and there may be one man who has travelled extensively and seen many buildings—but there should always be an architect, preferably called from some distant city. With no personal professional interest in the project, the services of such an architect would prove invaluable, and the committee would be assured of competent and unprejudiced advice well worth the amount of the fee and expenses which would be voted to him.

If the scale of a building project—a small church, for example—did not warrant the weighty and expensive procedure of an architectural competition, the members of the committee in whose hands the undertaking was placed, would do well to study as many files of the leading architectural periodicals as they may obtain, as well as books on architecture, and might, if still in doubt, write to the American Institute of Architects, as a perfectly unprejudiced authority, for recommendations of architects whose works would particularly fit them to carry out the project in hand.

Architects who are “specialists” in certain types of buildings—notably school buildings, and hospitals, banks and hotels, will be found to possess certain recommendations for selection to carry out the type of building in which they have specialised, in that their experience has taught them many valuable details.

Only in recent years have real-estate operators come to realise the importance of securing competent architectural services in the planning of groups of “ready

made" houses. Careful architectural supervision will insure a consistency in the general aspect of a given real-estate development, as well as an attractive character to the individual houses. In some more notable instances architects and landscape architects have been called in to work together toward the creation of a really attractive living environment, so that already there are several tracts which should be models to all who are planning the building development of any large piece of real estate. The significant fact is that the more intelligent real-estate operators now realise that the increased initial expense involved in securing competent architectural service is not money wasted, but money invested, in that there are created far higher rental and selling values than would otherwise exist. "Neighbourhood planning," "garden cities," and "model villages" have, for some time, been common architectural achievements in England and on the Continent, and the unlimited possibilities for this practical application of "architecture" to "building" are but at the dawn of their realisation in this country.

Reverting again to the individual who is about to build for himself a dwelling, the following chapter will take up the relationship between this individual (now a "client") and the architect whom he has selected to carry out the work.

CHAPTER II

ARCHITECT AND CLIENT

BUILDING IS A BUSINESS TRANSACTION. HOW TO CONSULT ARCHITECT. THE NATURE OF THE ARCHITECT'S SERVICES. WHAT ARCHITECT AND CLIENT SHOULD EACH RIGHTLY EXPECT FROM THE OTHER. BASIS OF CHARGES, SUPERVISION, "EXTRAS," ETC. ARCHITECTURAL DRAWINGS AND SPECIFICATIONS

SHORTLY before the close of the preceding chapter the prospective builder was followed through various means of selecting an architect, having done which, and called for the initial consultation, he has graduated from the status of a "prospective builder," and become a client.

Perhaps no one thing is more important for the client to remember throughout the building of his house than the fact that, after engaging an architect, he has entered upon a business relationship, and that the more businesslike this relationship is kept, the better for both parties. The building of a house, even a small house, calls for the expenditure of too much money on the one hand and too much skilled professional work on the other to be regarded as a mere "transaction between friends." It is not intended by this to imply that either architect or client should be cold or suspicious in their dealings with each other—the better friends they are throughout, the better for all concerned, and if all has gone as it should, they will be the best of friends afterward. If the architect has been asked to dinner, has met the client's family and friends, he is in a better position to add those intimate personal touches to the house which make it a true expression of the owner's



From a drawing by F. E. Newman, Architect

THE ARCHITECT'S PRELIMINARY SKETCH



F. E. Newman, Architect

THE EXECUTED BUILDING

These two illustrations show the remarkable accuracy of vision possessed by the architect, who produced the preliminary sketch before one stone of the actual house was laid



individuality. It should be remembered, however, that social and business relations with the architect should be kept strictly separate—the architect himself would rather have it so, and far prefers to receive instructions in writing, in a businesslike manner, than over the dinner-table, where no record exists of what has been said. Some houses, it is true, have been happily and successfully built in a delightfully hap-hazard and informal way, with little if any of the businesslike elements entering the transaction—but this has been because of a natural affinity and congeniality of tastes and confidence on the part of both architect and client, rather than because it is in any way a safe or commendable method of procedure in general.

Returning to the average case, it might well be reiterated that much of the success and smoothness of the whole building project will depend upon the client, fully realising, before his first visit to the architect's office, or his first proposal to the architect he has selected, that he is about to enter a *business relation*.

It is a strange and inexplicable circumstance that so many business men, punctilious to a degree in their every day business dealings, and in the enforcement of system and routine in their own offices, are flagrantly unbusinesslike in their dealings with the architect.

To engage an architect to draw plans and give skilled supervision, especially for a small house, is not to do him a personal favour, for which he should be humbly grateful throughout the whole progress of the building. In this connection, figures, perhaps, give a more lucid demonstration than words. The percentage basis of charges will be dealt with presently—suffice it to say that the architect is receiving his ten per cent. commission on a house estimated to cost \$10,000.00

(more often he receives seven per cent.) his fee, then, on the ten per cent. basis is \$1000.00, which, however, he does not net, but must allow a certain proportion for "overhead expense" (his office rent, etc.) and a certain amount for the expense he has been at to produce the drawings (draughtsmen's salaries, etc.). It will be seen from this that he is fortunate if he is able to clear half the total amount of his commission, and it must at once become apparent, even to a client who is not, himself, a business man, how many houses, averaging in cost \$10,000.00 this architect must build if he is to make even a fair income.

It should become equally apparent to the client about how much of the architect's time he should reasonably be expected to devote to one \$10,000.00 house. The client who is building a small and very inexpensive house—even a "bungalow client" is, unfortunately usually the most unreasonable. In all probability this building venture is his first expenditure of any considerable sum of money, and he is bound to receive his money's worth. He conceives of himself somewhat in the light of a "captain of industry," and pictures a large staff of labourers living from his expenditure on the house, himself, too, in the light of a patron of the arts, grandly giving the commission to build his \$8000 venture to some grateful architect. In work of this calibre, were the truth known, the architect quite often considers himself fortunate to produce the drawings at cost, and may have accepted the commission only because he could not refuse it, or because he had need to keep one or two of his draughtsmen busy through a dull period. The small-house client with enlarged ideas of his importance would do well to go (unwittingly) to one of the more prominent country-house architects

who make it a practice not to undertake any work for a house estimated to cost less than \$50,000. He would, no doubt, acquire his first lesson in the importance of "scale."

There are many architects, however, who specialise in small-house work, and whose practice is of sufficient volume to be profitable.

The client, then, enters upon his first consultation with due recognition of the fact that he is embarking in a business transaction and with due recognition of the fact that the architect has, of necessity, other work on hand, so that a fair and just proportion (not all) of his time will be devoted to the new project.

In the first consultation it is highly advisable for the client to be as explicit and as complete in his outline of the proposed house as it is possible, without technical knowledge, for him to be. Beginning with a statement of the amount of money he is prepared to spend, the client will do well to show the architect whatever sketches or plans he may have evolved, or whatever photographs or clippings from magazines he may have regarded as suggesting the kind of house he desires. From these documents the architect will be enabled to form, at the start, a fair idea of the nature of the project upon which he is being engaged, and much time will be saved in the architect's preparation of preliminary sketches which do not meet with the client's wishes. In this connection, however, it is well to remember that one should never ask an architect to *copy* another house exactly, no matter how closely one may wish him to follow it. No architect of standing would consent to such procedure, on ethical grounds, and any architect would regard such a request as a distinct reflection upon his creative ability. The writer is familiar with

a case in which such a request was made, and flatly refused by the architect. The client, nothing daunted, went to the *contractor* who had built the house he wished copied, and, using the original plans, in blue-print form, still in the contractor's possession, had an inferior duplicate erected—a grave reflection upon the contractor's integrity and an outrageous affront to the architectural profession and to every tenet of common decency.

In the first consultation with the architect the client should give his fullest confidence, withholding nothing which the architect should know in order to proceed intelligently and efficiently with the work. The procedure here should be regarded as in no wise different from a consultation in which a client is acquainting a lawyer with the circumstances which the lawyer will require in preparing his brief. If the client entertains any doubt regarding the architect's ability or his qualifications for carrying out the work in hand, he should satisfy these doubts before proceeding any further, for certain complications and friction will arise later if the project is commenced with any mistrust on the part of the client. If the client is a naturally "canny" individual, let him make sure of his architect first, rather than heap recriminations upon him later for a lack of harmony, which, after all, may be due only to the client's "difficult" personality, or his oversight in neglecting to select an architect who will be reasonably certain to please him.

The client should remember, throughout the course of the work, that he is paying a fixed and standard fee for certain fixed and standard professional services (often receiving more than the architect is called upon in the contract, to perform) and that the more wisely

he avails himself of these services, the better value he is receiving for his money. The futility and folly should be apparent in those cases (unfortunately frequent) where the client, biassed by some outside ill-advised notion, attempts to set his fantastic imaginings above the architect's absolute professional knowledge. Lawyers' clients and doctors' patients, both dealing with men who are no more or no less professional men than the architect, seem to show better judgment and proceed as though they realised that they had sought out men better informed on these special subjects than they, to advise them and to perform certain professional services for them.

In telling the architect all that is possible in the first consultation, it is well for the client to remember that, unless otherwise instructed, the architect will assume that all such items as doors, windows, hardware and so forth are to be "stock," by which is understood such as are obtainable ready-made on the market. This applies, also, to brick and to materials in general. All "stock" building materials are of standard cost, fluctuating only with large and nation-wide fluctuations in manufacturing or raw material costs.

If, however, the client has in mind certain "special" items, such as casement windows of unusual type, extra high-grade hardware or lighting fixtures, or some special high-priced face-brick or floor tile, he should acquaint the architect with these things at the outset, before the contractor has been asked to bid on the plans and specifications. The specifications (of which more later) will itemise all such special material or equipment, preferably by actual name, in order to avoid any substitution on the contractor's part.

The client will find that the architect has a full col-

lection of catalogues, and often a "museum" of samples of various bricks, tiles and the like, and can readily obtain samples of any building product which the client may wish to examine. From these actual materials, it will be possible for the client to ascertain exactly what his required "specials" will cost, and much later distress will be saved.

In the matter of definitely determining in advance exactly what the client wishes, the writer has considered the advantage which would come from the preparation of a standard printed blank, consisting of a series of questions regarding a proposed house, beginning with the foundations and comprising every detail of finished equipment. Many of these questions the client would be unable to answer, but in each case the architect could recommend certain products or equipment which his experience had proved desirable, in point of economy or any other consideration, and could illustrate his point by means of samples or catalogue illustrations. Such an initial agreement of ideas on the part of both would greatly facilitate the writing of accurate specifications at the first draft, and would save many inconvenient and sometimes expensive changes later. Through lack of familiarity with the appearance of much that is to be built into his house, the client is often disappointed and dissatisfied with certain details, all of which might well have been avoided if a knowledge had been acquired at the start. Much detail, however, can safely be left to the architect, if the client reposes in him the proper amount of confidence.

Reverting to the importance of acquainting the architect, at the very beginning, with all "special" and extra-expensive items desired by the client, it should be borne in mind that this will eliminate, or at least lessen

the list of "extras" which often run the cost of a house far beyond the client's intention. No one detail of practice, perhaps, has caused more unfortunate friction between architect and client than this matter of "extras," which is the more to be deplored in that no misunderstanding should be necessary.

Quite often a client remembers, after the house is half completed, that he had intended, for example, to have copper rain gutters instead of painted tin. He promptly telephones the architect to make the change, and the architect, making this note, mentions the fact that the copper gutters, costing about four times as much as the painted tin gutters allowed for in the specifications, will naturally appear as an "extra." The client answers that he is aware of this, but to order the copper gutters, then promptly forgets the whole conversation until he is confronted with a considerable extra charge for this and several other similar items, added or changed after the estimate on the whole house was prepared. There usually ensues a grievous scene, doubly grievous because totally unnecessary. The client may (and often does) maintain that the extra should go in for the estimated cost, on the ground that he had always intended from the start to have, for example, copper gutters instead of painted tin. The fact that he neglected to mention this rather expensive preference to the architect, either before or after the specifications were drawn up, carries no weight with him, although, as was mentioned before, he may be a business man in every other relation than that with the architect. Quite often he will accept the charge with exceeding ill-grace, grumbling words to the effect that he had always heard this was the way with architects—they say they will build a house to cost a certain

sum of money, then you find it costs half again as much because of the load of "extras" they put on.

No architect of any experience or standing, it should be remembered, will of his own accord, and without authorisation from the client, make any change whatever in the specifications for the house. The writer is familiar with one excellent method of procedure designed by a New York firm of architects to eliminate all confusion and recrimination in regard to extras. They insisted that any instructions whatsoever involving any extra labour, material or equipment not stipulated in the specifications or shown in the drawings must be ordered by the client in writing, and made it clear that no such extras would be performed, purchased or installed without such written instructions. In this way, argument was forestalled and friction avoided, and the procedure is to be recommended not only to architects but to clients. It is a curious thing that so many business men give casual instructions to their architects, either while going through the building or over the telephone, and an unfortunate thing that many architects carry out such instructions without any written order. A man who would not dream of following up a written order for eight carloads of wheat with a telephone message to increase it to twelve, is, strangely enough, quite capable of telephoning his architect to make some expensive change or substitution on his house without any following written confirmation of the order.

Allusion has been made to the estimate, to specifications and to drawings, and these important points, as well as architect's supervision and dealings with the contractor, now come under consideration.

There are several methods of estimating, and of

these the only one which is to be regarded as an approximation of cost is the estimate presented with the preliminary sketches. Even this, however, if based on exact initial data, and given by an architect who has had considerable experience in building the type of house under consideration, will often come within a hundred dollars of the actual cost of the house, completed.

The preliminary estimate, however, should not be regarded as final—"local conditions" spoken of in the chapter preceding may influence it considerably, one way or the other. The most reliable preliminary, as well as the most reliable final estimate, is that of a local contractor, who bases his figures on the definite specifications and working drawings of the architect. There should be no deflection from this, and any increase in cost due to "extras" should be duly expected and accepted as discussed in the preceding paragraphs.

Let it be supposed that the preliminary drawings, consisting of a perspective sketch, complete outline plans and the four "elevations" or direct views of the four sides of the house, have been agreed upon and changed to conform entirely with the client's views. These preliminary drawings will have been taken, perhaps, to the building site, and will have been discussed by such members of the client's family and such of his friends as he has called in to aid his judgment. To save expensive changes in the later drawings, it is highly desirable for the client to make every change and suggestion he can possibly think of at this stage. These drawings are usually in pencil, and are to be regarded as tentative sketches—a basis for discussion.

When these, the "preliminaries" are finally pronounced "final," the architect is ready to proceed with the specifications and the working drawings, and the

client is asked (if he has not been asked earlier) to sign the "Standard Form of Agreement Between Owner and Architect." * This document, which is seldom seen by a prospective builder until it is presented to him to sign, contains a very clear exposition of the various services which the architect is required to perform, and is therefore printed here in full, as an important part of this chapter.

CONDITIONS OF AGREEMENT BETWEEN OWNER AND ARCHITECT

Article 1. The Architect's Services.—The Architect's professional services consist of the necessary conferences, the preparation of preliminary studies, working drawings, specifications, large scale and full size detail drawings; the drafting of forms of proposals and contracts; the issuance of certificates of payment; the keeping of accounts, the general administration of the business and supervision of the work.

2. The Architect's Fee.—The fee payable by the Owner to the Architect for the performance of the above services is the percentage hereinbefore defined as the basic rate, computed upon the cost of the work in respect of which such services have been performed, subject, however, to any modifications growing out of these Conditions of Agreement.

3. Reimbursements.—The Owner is to reimburse the Architect the costs of transportation and living incurred by him and his assistants while travelling in discharge of duties connected with the work, and the costs of the services of heating, ventilating, mechanical, and electrical engineers.

4. Extra Services and Special Cases.—If after a definite scheme has been approved, the Owner makes a decision which, for its proper execution, involves extra services and expense for changes in or additions to the drawings, specifications or other documents; or if a contract be let by cost of labor and material plus a percentage or fixed sum; or if the services of the Architect are rendered for work contemplated but not executed; or if the Architect is put to labor or expense by delays caused by the Owner or a contractor, or by the delinquency or insolvency of either, he shall be equitably paid for such extra service and expense.

The basic rate as hereinbefore defined is to be used when all of the work is let under one contract. Should the Owner determine to

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have certain portions of the work executed under separate contracts, as the Architect's burden of service, expense and responsibility is thereby increased, the rate in connection with such portions of the work shall be four per cent greater than the basic rate. Should the Owner determine to have substantially the entire work executed under separate contracts, then such higher rate shall apply to the entire work. In any event, however, the basic rate shall, without increase, apply to contracts for any portions of the work on which the Owner reimburses the Engineer's fees to the Architect, and to the cost of articles not designed by the Architect but purchased under his direction.

Should the work or any part of it be abandoned or suspended or should the Owner vary the amount of any contract by accepting a credit for the omission or modification of any work covered by it, the Architect is to be paid in accordance with the terms of this Agreement for the proportion of his service rendered on account of it up to the time of such abandonment, suspension or acceptance.

No deduction shall be made from the Architect's fee on account of penalty, liquidated damages, or other sums withheld from payments to contractors.

5. *Payments.*—Payments to the Architect on his fee are due as his work progresses in the following order: upon completion of the preliminary studies, twenty per cent of the entire fee; upon completion of specifications and general working drawings (exclusive of details), forty per cent additional of the entire fee, the remainder being due from time to time in proportion to the amount of service rendered. Payments to the Architect, other than those on his fee, and all reimbursements of costs fall due from time to time as his work is done or as costs are incurred. Until contracts are signed charges are to be based upon a reasonable estimated cost of the work and payments received are on account of the entire fee.

6. *The Owner's Decisions.*—The Owner shall give thorough consideration to all sketches, drawings, specifications, proposals, contracts, and other documents laid before him by the Architect and, whenever prompt action is necessary, he shall inform the Architect of his decisions in such reasonable time as not to delay the work of the Architect nor to prevent him from giving drawings or instructions to contractors in due season.

7. *Survey, Borings, and Tests.*—The Owner shall furnish the Architect with a complete and accurate survey of the building site, giving the grades and lines of streets, pavements, and adjoining properties; the rights, restrictions, easements, boundaries, and contours of the building site, and full information as to sewer, water, gas, and electrical service. The Owner is to pay for borings or tests pits and for chemical, mechanical, or other tests when required.

256 THE PRACTICAL BOOK OF ARCHITECTURE

8. *Supervision of the Work.*—The Architect will endeavor to guard the Owner against defects and deficiencies in the work of contractors, but he does not guarantee the performance of their contracts. The supervision of an architect is to be distinguished from the continuous personal superintendence to be obtained by the employment of a clerk-of-the-works.

When authorized by the Owner, a clerk-of-the-works acceptable to both Owner and Architect shall be engaged by the Architect at a salary satisfactory to the Owner and paid by the Owner, upon presentation of the Architect's monthly certificates.

9. *Preliminary Estimates.*—When requested to do so, the Architect will make or procure preliminary estimates on the cost of the work and he will endeavor to keep the actual cost of the work as low as may be consistent with the purpose of the building and with proper workmanship and material, but no estimate made before the completion of working drawings and specifications can be regarded as other than an approximation.

10. *Definition of the Cost of the Work.*—The words "the cost of the work" as used in Article 2 hereof are ordinarily to be interpreted as meaning the total of the contract sums incurred for the execution of the work, not including Architect's and Engineer's fees, or the salary of the clerk-of-the-works, but in certain rare cases, *e. g.*, when labor or material is furnished by the Owner below its market cost or when old materials are re-used, the cost of the work is to be interpreted as the cost of all materials and labor necessary to complete the work, as such cost would have been if all materials had been new and if all labor had been fully paid at market prices current when the work was ordered, plus contractor's profits and expenses.

11. *Ownership of Documents.*—Drawings and specifications as instruments of service are the property of the Architect whether the work for which they are made be executed or not.

12. *Successors and Assignment.*—The Owner and the Architect, each binds himself, his successors, executors, administrators, and assigns to the other party to this agreement, and to the successors, executors, administrators, and assigns of such other party in respect of all the covenants of this Agreement.

The Architect shall have the right to join with him in the performance of this agreement, any architect or architects with whom he may in good faith enter into general partnership relations. In case of the death or disability of one or more partners, the rights and duties of the Architect, if a firm, shall devolve upon the remaining partner or partners or upon such firm as may be established by him or them, and he, they or it shall be recognized as the "successor" of the Architect, and so on until the service covered by the agreement has

been performed. The Owner shall have the same rights, but in his case no limitation as to the vocation of those admitted to partnership is imposed.

Except as above, neither the Owner nor the Architect shall assign, sublet or transfer his interest in this agreement without the written consent of the other.

13. *Arbitration.*—All questions in dispute under this Agreement shall be submitted to arbitration at the choice of either party. The general procedure shall conform to the laws of the State in which the work is to be erected, and wherever permitted by law the decision of the arbitrators may be filed in court to carry it into effect.

The parties may agree upon one arbitrator; otherwise there shall be three, one named in writing by each party and the third chosen by these two arbitrators, or if they fail to select a third within ten days he shall be chosen by the presiding officer of the Bar Association nearest to the location of the work. Should the party demanding arbitration fail to name an arbitrator within ten days of his demand, his right to arbitration shall lapse. Should the other party fail to choose an arbitrator within the said ten days, then such presiding officer shall appoint such arbitrator. Should either party refuse or neglect to supply the arbitrators with any papers or information demanded in writing, the arbitrators are empowered by both parties to proceed *ex parte*.

If there be one arbitrator his decision shall be binding; if three, the decision of any two shall be binding and such decision shall be a condition precedent to any right of legal action. The arbitrators shall fix their own compensation, unless otherwise provided by agreement, and shall assess the costs and charges of the arbitration upon either or both parties. The award of the arbitrators must be in writing and, if in writing, shall not be open to objection on account of the form of the proceedings or the award.

The Owner and the Architect hereby agree to the full performance of the covenants contained herein.

IN WITNESS WHEREOF they have hereunto set their hands and seals, the day and year first above written.

Certain percentages have been standardised as minimums which the architect should accept, and these, in all cases, are not included in the estimate, which is understood to represent the total cost in labour, materials and equipment required to erect a given building in full accordance with specifications and drawings pre-

pared for that building. No travelling expenses for the architect or his superintendent are included in the percentage commission, as these might well consume an undue proportion at no profit whatever to the architect, who is giving his time as well, in accordance with the contract.

The minimum percentage required by the American Institute of Architects to be charged by Institute members for general residential work is 6 per cent., while factories, loft-buildings, city buildings of any type, and alterations, in city or country, are usually undertaken at 10 per cent. of the estimated cost of the work.

Advice regarding supervision is a little difficult to give in definite terms, because circumstances vary. If a building is being erected by a reliable contractor, with whom the architect has had previous satisfactory dealings, less supervision is necessary than in a case in which the architect does not feel it to be entirely safe to entrust too many delicate details to a contractor with whose work he is unfamiliar. Also, simple "standard" types of building require comparatively little supervision on the part of the architect, because there is little which can "go wrong," and travelling expenses (if any) to the work, might well prove an unnecessary addition to the total cost.

There are buildings, however, which call for minute, careful and almost constant supervision on the part of the architect—especially as the work progresses and the finished portions are being carried out. For such work the architect may well be justified in asking more than the minimum commission, and the client should rightly expect to pay it. He is requiring something a little better, or a great deal better, than the ordinary, and should be prepared to pay a little more for it, just

as he would in any transaction other than an architectural one. A man who has an important law matter on hand, or an important operation, will seek a lawyer or a surgeon of high standing and high reputation, and will realise, in so doing, that he will be asked to pay a larger fee. This he should reckon upon beforehand, and take fully into advisement with himself.

It is very difficult for the average client to be able to determine, intelligently and fairly, whether or not the architect is giving work in progress a sufficient amount of personal supervision. The architect, often openly accused of neglect, is in reality saving his client a volume of unnecessary charge for travelling expense, and, if he is in all other respects an architect of integrity and reliability, it is safe to assume that he is the best judge of the amount of supervision the work will require. After all, it should be remembered that the architect's reputation is at stake, not only in the design of the house, for which he is directly responsible, but for the contractor's part of the work, for which he is indirectly responsible. It stands to reason, therefore, that the architect will not wittingly allow a contractor to erect a monument which will reflect upon his professional ability, and much of the client's apprehension regarding insufficient supervision may well be allayed by this reflection.

Before entering into a more or less detailed consideration of the drawings and specifications, it may be well to ascertain exactly what relation the contractor bears to the whole building transaction, and what relation he bears to the client.

In usual procedure, the architect invites two, three or more contractors to tender estimates, or bids, on a proposed building, these bids to be based on absolutely

260 THE PRACTICAL BOOK OF ARCHITECTURE

uniform data given to each bidder in the form of duplicate specifications and duplicate blue-prints. The client may know nothing of these contractors—usually they are contractors of good local reputation in the vicinity in which the building is to be erected, or with whom the architect has had previous satisfactory dealings.

When the bids have been received, sealed, they are formally opened, perhaps in the presence of the client. In the case of important public buildings, in which large expenditures of money are involved, it is obvious that the greatest formality and impartiality be observed, and that no bidder be aware of any of his competitors' estimates before all the sealed bids have been handed in. The degree of formality to be observed in the bids for a private house may well be left to the discretion of architect and client.

Several bids, then, are placed before the client, who, if wise, will accept the estimate recommended by the architect, who is in a far better position to judge of the ability and integrity of the competing contractors than is the client. By no means should the client feel impelled to accept the lowest bid, for reasons which should be obvious.

If one bid is far lower than all others, it is safe to assume several things which are detrimental to that bidder. It may be that he is an inexperienced and impractical man, who has figured "low" on everything through lack of familiarity with costs, or an undue desire to secure the work. Or, in some cases, a very low bid is put in by an unscrupulous contractor who, also unduly desirous of securing the work, is figuring his profit through the fraudulent substitution of inferior materials, or the employment of cheap labour, or

both. And, in any building, cheap and poor workmanship is dear at any price. The client, therefore, should not be surprised if the architect pays little or no attention to the very low bids, but weighs the merits of the medium, or the medium high bid.

A cautious contractor, who is figuring on carrying out the architect's specifications to the letter, and on employing only the most skilled labour, will naturally tender a fairly high, perhaps a very high bid, and if the client can afford it, he may do well to accept it in preference even to the medium low bid. He is building, perhaps, but once, and will find years of satisfaction in a well-built house. In any case, the architect again, is the client's best advisor. He may point to one bid and recommend it in preference to all others, because he knows from past dealings that the contractor who submitted it is thoroughly reliable, and will turn over a perfectly satisfactory house, honestly and carefully built.

The relationship between owner and contractor is purely a business one, and is concluded (excepting for payments as the work progresses) when both parties have signed the "Standard Form of Agreement Between Owner and Contractor"—a form carefully prepared, like the Standard Owner-Architect agreement, by the American Institute of Architects. Under no circumstances, however, should a client go out "on the job" and give direct instructions to the contractor, or to any of his foremen or superintendents. At most, he may mention certain things which he wishes the contractor to take up with the architect, though even this is unwise and is much better not done.

If the client sees any work which he considers not in accordance with the specifications, or sees anything

which he wishes altered or done differently, let him make notes on it, and take these up with the architect. Instructions to the contractor, given over the architect's head, and without the architect's knowledge, are a reflection on his ability and a grievous confusion to all concerned. The contractor himself would far rather receive his instructions direct from the architect, and from no one else, because it is the architect to whom he is directly responsible. Only in a most serious case, and one in which the client is very sure of his knowledge, is it well for him to order work stopped on all or any part of the building until the architect can appear on the scene. Usually this procedure is only officious interference, seriously hampering the work, and greatly annoying and affronting the architect, because in most cases the client lacks the professional knowledge which would command the contractor's respect, or would insure intelligent interference with the work. There will always be, however, the officious botanist who will tell a veteran bricklayer how brick should be layed, or the successful doctor who will tell a veteran carpenter how a plank should be ripped. If these (possibly) well-meaning individuals realised that they appear to skilled workmen as ridiculous as they imagine they appear wise, they would, perhaps, confine their advices to such subjects as they were more versed in.

Regarding material or workmanship which is to be condemned, and ordered removed and replaced, the architect is the final word, as is duly set forth in the agreement with the contractor, and in the written general provisions of the specifications, which, with the drawings, constitute a most important and binding part of the agreement. Any architect will be glad to afford a client the opportunity to read carefully some

previous set of specifications, in which he may perceive to what minute details of workmanship, materials and equipment the contractor is bound. Every part of the work is specified to be done in a "thoroughly workmanlike manner," and a preceding clause states that all workmanship is subject to approval or condemnation by the architect. The specifications may even state exactly how many nails shall be driven in the cross-bridging under the floors—a carefully written specification, indeed, leaving no loophole whatever for careless or unconscientious execution on the part of the contractor or his workmen.

In many cases there are sub-contracts, which it is best to have let directly by the architect. A "general contractor" bidding on the average dwelling, usually includes in his estimate the entire work—excavation, masonry, carpentry, plastering and painting, while heating, plumbing and electric wiring contracts are usually let separately by the architect, his selection of a sub-contractor being determined on estimates based on special sets of duplicate specifications and drawings, as in the case of the general contract. If the general contractor is letting the sub-contracts, a clause in the general specifications stipulates that the architect has the power to reject any or all bids so received, should he have reason to believe that any of the sub-contractors was undesirable. Occasionally the architect dispenses with the general contractor, and sub-lets direct all contracts, from the excavation work to the last finished coat of paint, though this procedure is not usual. The profit of the general contractor is saved, but it is obviously necessary to the architect to appoint a superintendent, and to give the work much closer attention than would be the case if a reliable general contractor

were responsible for the work of all the sub-contractors.

A client who undertakes to sublet contracts himself is storing up untold trouble for himself and his architect, and is, in fact, in the same class with the man who, being his own lawyer, "has a fool for a client."

It has been shown, in speaking of the contractor, in what manner the specification acts as a detailed contract. It is, in fact, one of the most important instruments in the whole transaction, and if skilfully and comprehensively written, will insure the building of a house in exact conformity with the plans and intentions of both owner and architect.

The specifications commence with certain general provisions, stating the authority which will be exercised by the architect throughout the progress of the work, and stipulating the quality of workmanship which will be required. The body of the document will be divided according to the several divisions of the work, into sections dealing in detail with excavation, masonry, carpenter work, plastering, painting and so forth, specifying not only what materials shall be used, but in what manner. It is well to specify materials and equipment by actual trade names and numbers, making assurance doubly sure by requiring conformity with a sample "to be furnished by the architect." Thus, a certain brick should be specified by name, and all such equipment as plumbing and lighting fixtures, steam radiators and hardware should be specified by catalogue number. In this way it will be seen that there is virtually no possibility of mistake or fraudulent substitution.

With regard to the architect's recommendation of certain makes or qualities of material or equipment, a correction should be made here of a serious misconception of the architect's function which is sometimes

encountered. There are people who suppose that an architect, either openly or surreptitiously, receives commissions from manufacturers for the recommendation and subsequent use of materials or equipment. Nothing could be more erroneous, or a more unfounded reflection on a high-standing profession. The architect is only a professional advisor. His recommendations are entirely impartial, and of an entirely professional character, his only remuneration in the entire work being represented by his percentage commission on the estimated cost of the entire building.

The drawings required in the erection of a building will vary in number and complexity according to the nature of the building, but will consist, in general, for all buildings, of:

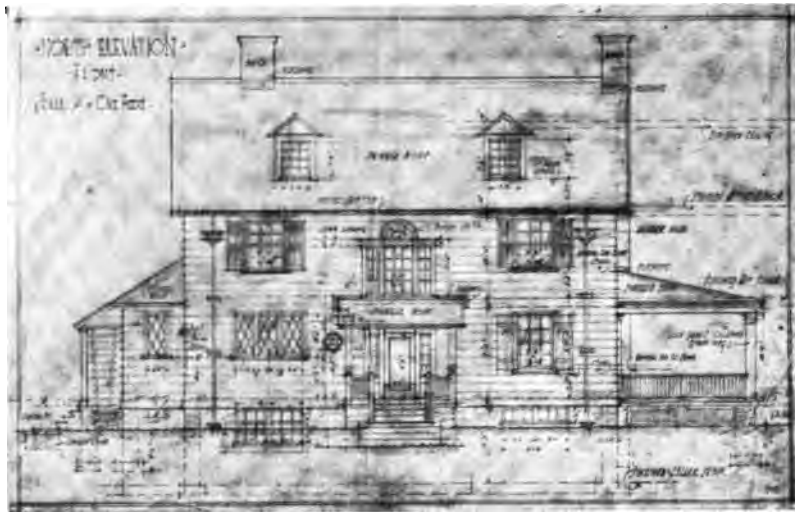
1. The preliminary drawings.
2. The working drawings.
 - a. The $\frac{1}{4}$ -inch scale plans and elevations.
 - b. The $\frac{3}{4}$ -inch (or $1\frac{1}{2}$ -inch) scale details.
 - c. The full-size details.

Of the preliminaries, mention was made earlier in this chapter. The perspective drawing will be in pencil, water-colour or pen-and-ink, and will consist of a picture (sometimes, be it said, a trifle "idealised") of the proposed house. The preliminary plans may be a part of this drawing, blocked in in miniature merely to give an idea of the arrangement of the rooms. In some cases preliminary drawings will include $\frac{1}{4}$ -inch scale plans and elevations, the careful re-studying of which will save much changing of the subsequent "working drawings." English architects lavish an interesting amount of real artistic effort upon their preliminaries, often making charming colour-sketches of several different aspects of the proposed house, as well as of

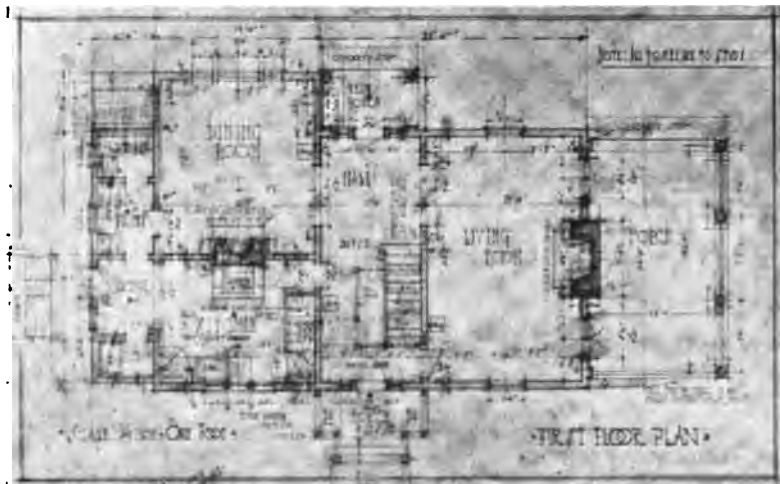
many of the rooms. Exigencies of practice in this country, however, combined with American impatience, make such elaboration of preliminaries rare—indeed, the average American client would expect to see his house completed, or would be seeking another architect before the English preliminary drawings were finished.

The first of the working drawings to be considered are the $\frac{1}{4}$ -inch scale drawings, so called because they are accurately laid out with $\frac{1}{4}$ inch in the drawing equalling one foot in the actual building. Each quarter inch is regarded as being composed of twelve minute “inches,” so that exact proportions may be shown in these drawings. The $\frac{1}{4}$ -inch scale drawings include all the plans, from cellar to attic, as well as one or more sections through the building, and all four of its “elevations,” or aspects as viewed from each of its four sides. These “elevations,” the architect will explain, do not depict the house as it will *actually appear*, but as it must be laid out for the builder. Roofs, particularly, in working elevations, are difficult for many clients to comprehend—but here, if he is at a loss, he may be assured that the architect is able to visualise the finished building.

The working plans, perhaps, are more understandable, and show all the walls, partitions, doors and windows, as well as outlets for lighting fixtures, location of kitchen and bath-room equipment, and all other essentials. In addition to the fact that these are accurately drawn at a scale of $\frac{1}{4}$ inch equalling one foot, all these plans are minutely “figured” to avoid any danger of error. Different materials are “indicated” by different kinds of shading, and many notes regarding materials, etc., may appear as well, supplementing the specifications.



REDUCED REPRODUCTION OF AN ACTUAL "1/4-INCH WORKING DRAWING"
 After the approval of the preliminary sketches, all four "elevations" of a building, as well as sections, are accurately drawn and figured to a 1/4-inch scale

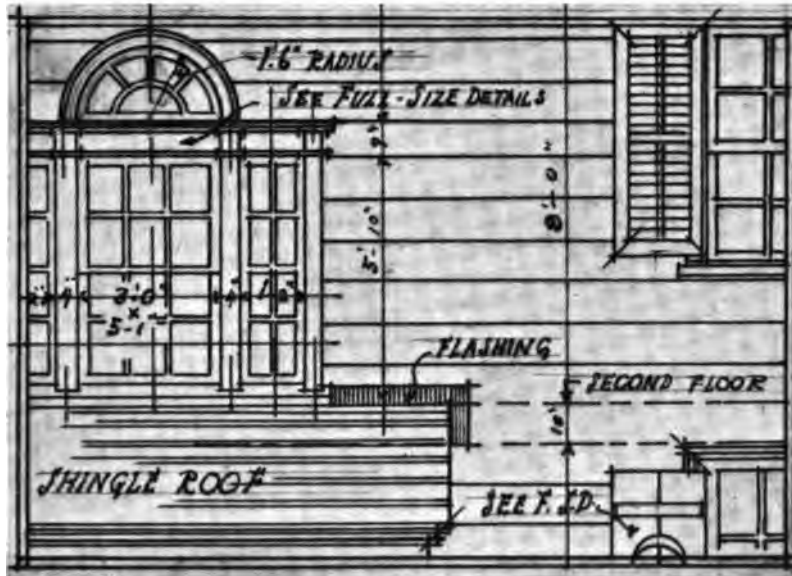


REDUCED REPRODUCTION OF AN ACTUAL "1/4-INCH SCALE WORKING DRAWING"
 The 1/4-inch working drawings of all the floor plans contain all the principal dimensions, as well as much detailed information, supplementing the language of the specifications

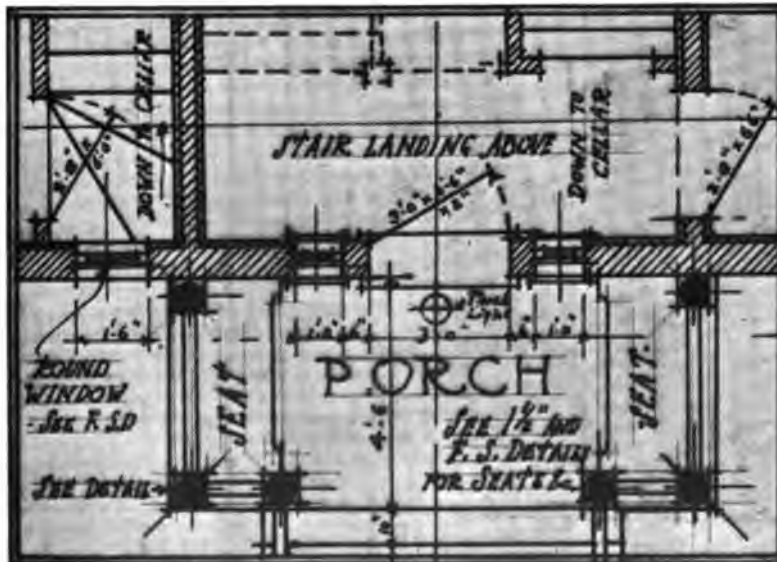


A PRELIMINARY DRAWING OF A VILLAGE LIBRARY

Illustrating the frequent architectural device of presenting a coloured perspective tentative plan and a detailed architectural feature combined in one drawing

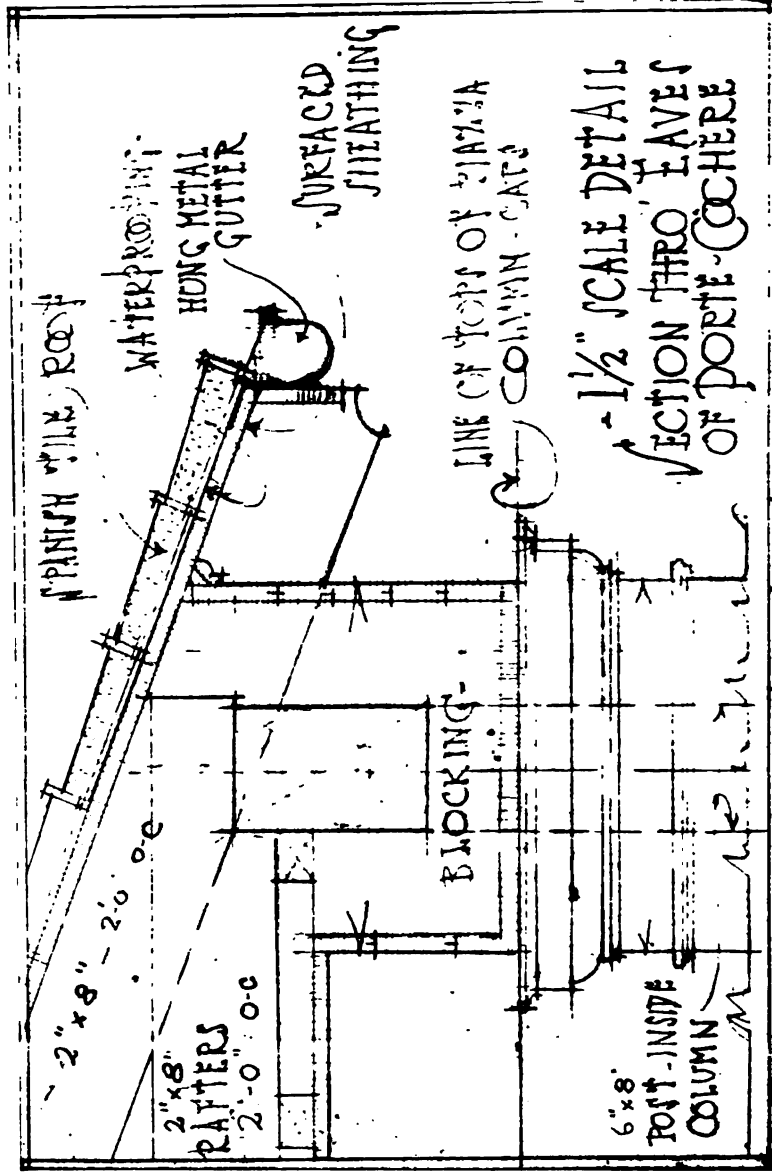


PORTION OF AN ACTUAL "1/4-INCH SCALE WORKING DRAWING"



PORTION OF AN ACTUAL "1/4-INCH SCALE WORKING DRAWING"

After the approval of the preliminary sketches, all plans and "elevations" are accurately laid out to scale and "figured," with 1/4 inch in the drawing equalling one actual foot in the proposed building



PORTION OF AN ACTUAL "1/4-INCH DETAIL" DRAWING

All portions of a building presenting special or elaborate features of design or construction are usually shown in special detail drawings, in which a unit of 1/4 inches is equal to one foot

These working drawings are usually done in black ink on semi-transparent linen tracing cloth, both because the durability of this substance will sustain many erasures and changes, and because its transparency permits of a clear blue-print. Obviously, these original drawings, representing much time and study, must remain for safety in the architect's office, while the client, the contractor, the sub-contractors, and possibly a local building department will require copies.

These copies are printed in exactly the same way that a photographic negative is printed, so that the black lines in the tracing print white, while the ground of the paper tones blue—and produces a "blue-print." And whatever mischance or damage may befall a set of blue-prints "on the job," the original ink drawings on tracing cloth are safely filed in the architect's office, easily to be reprinted in any number of sets of blue-prints which may be required.

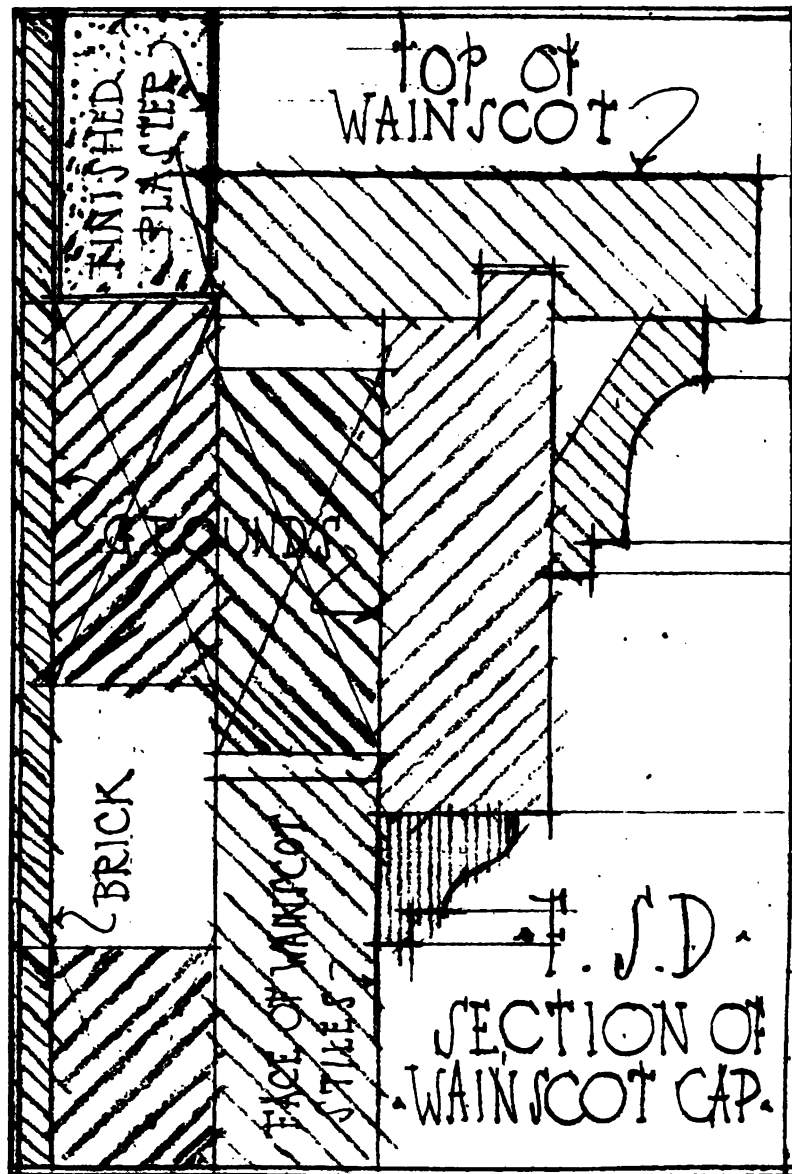
From the dimensions worked out and determined in the $\frac{1}{4}$ -inch scale drawings, there are developed the $\frac{3}{4}$ -inch scale details, which show (at three times the size of the $\frac{1}{4}$ -inch drawings, with $\frac{3}{4}$ -inch equalling one foot) such details as mantel-pieces, stairways, paneling and the like. These scale details are sometimes drawn at a larger scale, in which $1\frac{1}{2}$ inches equals one foot, especially if it is necessary to show any carving or elaborate woodwork. With these drawings, the work proceeds, and during its progress, the architect works out such full-size details as may be required. His obligation in this respect is rather vague in the contract, but in practice an architect who has even a slight vestige of pride in his finished work, will of his own accord make all the full-size details which are necessary for the execution of the work according to his

intentions. These drawings show mouldings, profiles and carving at actual size, and are often the most interesting drawings, from a draughtsman's point of view, which come from an architect's office. They are drawn on heavy brown paper, and though occasionally sent out "on the job," the careful architect prefers to have a draughtsman make tracings, so that the originals may remain in his office.

Obviously the merit of a building, in point of detail, will depend very largely on the number of full-size detail drawings prepared by the architect, since these drawings are as nearly as he can arrive at actually executing the work with his own hands.

It will readily be appreciated that the full-size details for such a building as a public library or a state capitol must entail an enormous amount of work on the part of the architect—a labour which the lay observer naturally has never paused to reflect upon, when he has gazed, even intelligently, upon some great elaborate facade or imposing interior.

Such, in brief, is the architect's procedure, often viewed with fluctuations of interest, admiration, bewilderment, misgiving or plain incomprehension by the client. Some architects, perhaps, trained for years to "read" architectural drawings are a little impatient with clients who entirely fail to follow the carefully designed lines they see before them. Let them remember, however, that these lines which they see are the result of many hours and many days of painstaking study and re-study backed by years of experience, and that their doctor does not outline the steps by which he has arrived at a diagnosis. This is professional work, to be thoroughly understood and appreciated only by a fellow-professional.



PORTION OF AN ACTUAL "FULL-SIZE DETAIL" DRAWING

It is customary for the architect to prepare full-size detail drawings for all work of special character, either exterior or interior

Nor do the drawings show, to the lay inspection, the thought and study which have gone into the devising of an easy, comfortable staircase, or into adding eighteen inches to the width of an upstairs hall or working in an extra guest-room. These things are worked out over the draughting table, these and many other things, unseen and unappreciated because they only go to make the whole plan more convenient, the whole finished house a more agreeable abode. Some unfortunate feature, however, is usually noticed at once, and enlarged upon, albeit it may have resulted from some insistence of the client upon a room-arrangement or disposition of the stairway which the architect had pled in vain to change.

The foregoing paragraphs may seem to have ignored the incompetent architect—to assume, in fact, that all architects are paragons of wisdom and ability, universally abused and maltreated by a stupid and unappreciative idiot designated a “client.” It should go without saying, however, that there are incompetent architects, just as there are incompetent doctors and lawyers. They are to be avoided, and seldom come to one properly recommended, or accredited by previous good work. The selection of such should certainly be taken as a reflection upon the judgment of the client, or at least as occasion for commiserating him—the professions they misrepresent should not be discredited. It is safe to say, at any rate, that the client who knows more about architecture or building than his architect is an individual so rare that he can find no place in a discussion so necessarily confined to the average as the present one—he would make, indeed, an interesting character for a work of fiction.

A word might be interposed here about a breach of business etiquette which is sometimes committed (often

thoughtlessly) by a client in asking another architect his opinion of a set of plans, or of an unfinished house in the hands of his acting architect.

No architect of professional standing, or with the slightest regard to professional ethics, would dream of expressing any opinion, any more than would a doctor or a lawyer, without cognisance and consent of the acting professional. This point is covered in the Canon of Ethics of the American Institute of Architects.

Unless a certain amount of diplomacy and tact be exercised by the client, a little professional clash may arise between architect and interior decorator, and not entirely without cause.

The architect recognises the fact that a landscape architect is a specialist with a distinct status, like a structural engineer, working with architects in professional channels of a non-conflicting nature. The interior decorator, however, the architect naturally regards as an interloper, especially if the decorator is commissioned to carry out important interiors calling for elaborate panelling and the like. It is only natural that the architect should feel himself to be as good an authority as anyone on the treatment of interiors in a house which he has designed himself. He is willing enough for the decorator to select furniture, fabrics, tapestries and all decorative accessories, but his disappointment is often acute and genuine, and not at all mercenary, when he finds that all the most important and interesting interiors (for which he had definite architectural ideas) are taken out of his hands and out of his contract.

The only procedure for the client who is desirous of a harmonious relation between architect and decorator is to tell the architect at the very start that certain rooms are to be carried out by a certain decorator. The architect, then, will make his plans accordingly, and

expend no time or expense in studies or drawings of those rooms. He may secretly resent the implied superiority of the decorator (which may be real or imaginary) but he will not feel as badly about the intrusion as though it were suddenly broken to him at an advanced stage of his work on the house. It should be remembered, too, that many architects have attained conspicuous reputations as interior decorators, designing special furniture, selecting antiques, and proving themselves connoisseurs of tapestries, and the like, all for their client's benefit.

With due appreciation of the points presented in this chapter, bearing upon the relationship between the architect and his client, it might safely be asserted that the reader, if a prospective builder, may be piloted over the shoals of indecision and misgiving, and may be enabled to steer a nice course between undue ignorance of his architect's work on the one hand, and undue suspicion of his architect's ability and motives on the other hand.

It remains only to mention a few points of procedure in the relationship of architects with large building undertakings. Here, at the outset, the relationship begins, proceeds and terminates strictly on a business basis. The client is a powerful business man, or is represented by a corporation, a municipality, a railroad or a building committee. Here, if anything, the architect is put to it to outdo his client in business-like procedure. Every step of the work, from the publication of the competition program to the last payment to the selected architect goes forward with the utmost formality. Formality, indeed, in the form of endless meetings and conferences, often clogs the wheels of progress, and finds the architect impatiently awaiting the word of some great "board" to proceed with his part of the

work. The issuance of invitations to bid on a State Capitol, for instance, is a serious matter, attended by great formality, and the acceptance of a bid no less so.

The architect's work is large and complex in proportion to the size and complexity of the building he has been selected to design.

The "preliminaries," in the case of the large competition, are usually called the "*projet*" drawings, in memory of student days in the ateliers of the Ecole des Beaux Arts in Paris, where each elaborate problem was a *projet*. These competition drawings are often unbelievably elaborate and enormously expensive for the architect to produce. Usually he is remunerated for the actual cost, though in most cases he expends considerably more than he receives, if unsuccessful. He is playing for big stakes, however, and makes an effort proportionally.

As stated in an earlier chapter, the subject of the proper conduct of large and important competitions has been given weighty and detailed consideration by the American Institute of Architects, and their conclusions are duly set forth in a special document issued by that body.

His *projet* accepted, the architect must maintain a large staff of good draughtsmen to carry out the endless drawings required. He must have a competent superintendent and other assistants in the work.

As in a small country house, the work proceeds through the 1/4-inch scale drawings, to 3/4- or 1 1/2-inch details and sections, until the stage of full-size detail drawing is reached.

Here, however, the full-size details of all carved work do not go to the workmen "on the job," but to a professional "architectural modeller," who prepares full-size models of all capitols, modillions, consoles and



John Russell Pope, Architect

PROJET FOR A NATIONAL MEMORIAL MONUMENT
One of a set of remarkable drawings presented in competition

ornamented mouldings and all other detail of like nature, and these full size models, after change and final approval by the architect, go to wood-carvers, stone-carvers and metal founders, together with the drawings, so that no mistakes may occur in execution. Owing to the importance of the work involved on a large building, the various sub-contractors, such as marble workers, wood-workers and bronze-casters, send reliable men of their own to take minute measurements of the building, as it progresses, so that they may be positive of the dimensions to which they are working the several parts entrusted to them, and which are being executed in different mills and stone yards miles from the building itself.

And it is a marvellous tribute to the painstaking accuracy of draughtsmen and artisans to see with what perfect exactitude various members of marble, wood, bronze and other materials, assembled from different shops, will fit together "on the job," each in its designed place.

Here, too, in the carrying out of plans for a great building, it must be remembered that the architect is not simply a free-lance "designer," netting an enormous fee. He is under tremendous expense in getting out the drawings and providing adequate supervision, and as he is, in a sense, the steward of considerable expenditures, he must have an expert accountant to check bills, handle his pay-roll, and render to his client accurate and businesslike financial statements at any time he may be required.

Notwithstanding which, there are many architects who would say that they could build a state capitol or a public library with far less personal harassment and annoyance than they would experience in building an \$8000 cottage for a captious client.

CHAPTER III

MATERIALS AND CONSTRUCTION

CONSIDERATION OF PHYSICAL AND ÆSTHETIC PROPERTIES OF BUILDING MATERIALS. NATURES, SUITABILITY, COMPARATIVE COSTS, ETC., OF BUILDING MATERIALS. THE IMPORTANCE OF TEXTURE. ASSOCIATED SUITABILITY OF MATERIALS AND STYLES

COMMON observation has acquainted us with the fact that there is quite a variety of building materials, but the prospective builder is naturally at a loss to compare them one with another in a knowing manner. All building materials, he knows, have certain physical, architectural and æsthetic properties, and in the choice of any one he knows there are involved certain economic considerations as well.

The question of choice, happily, is not untrammelled, but is in fact actually limited. The greatest confusion, perhaps, results from ideas not clearly visualised, and satisfaction in the ultimate choice should be reasonably certain of attainment if the prospective builder saw each material, with its exact properties, unshrouded by the veil of complexity, mystery and unfamiliarity.

It is the purpose of this chapter, then, to establish certain specific premises, and to tabulate materials (with types of construction involved) in a manner which shall be at once definite and clear.

The following materials, involving differing methods of construction, will be dealt with in a necessarily brief manner, yet with a degree of lucidity which may aid the prospective builder in defining his ideas in this connection.

TABLE A

1. The frame house: Shingle-covered.
2. The frame house: Clapboard-covered.
3. The frame house: With stucco on wire-lath.
4. The hollow tile house (stucco-covered).
5. The brick house.
6. The stone house (rough-dressed stone).
7. The actual half-timber house.

In discussing these several types of house, it may aid the end of clearness to show in tabulated form the more important aspects under which any material may well be considered.

There are, in the first place, certain restrictions in choice, which we will tabulate.

TABLE B

1. Restriction of inherent cost.
2. Cost restriction due to locality: material locally unobtainable, and expensive to transport.
3. Style restriction, due to unsuitability of a given material for the expression of style desired.

The several considerations under which building materials tabulated are interdependent and closely interrelated, will be seen in the following table:

TABLE C

- | | | |
|---|---|---|
| 1. Physical properties of materials | { | a. Character
b. Durability
c. Adaptability |
| 2. Properties both physical and æsthetic | { | a. Texture
b. Colour |
| 3. Æsthetic or architectural properties of materials..... | { | a. Stylistic suitability
b. Local suitability
c. Expressiveness |
| 4. Economic properties of materials | { | a. Inherent cost
b. Comparative cost
c. Local availability
d. Workability, or structural cost
e. Upkeep |

If the properties listed above be applied carefully and thoughtfully to any building project, it is safe to say that all essential conditions governing choice of material will have come under due consideration. With a view to keeping the study of materials as clear as possible, the above tables will be used as the basis of the detailed discussion in the following paragraphs.

The types of construction, with associated material, listed in Table A, will be found to cover virtually all typical country residences, omitting reference to buildings which call for much carved or dressed stone work, either in the entire fabric, or in a brick house with carved stone trim. Such houses, it is obvious, fall in the class of highly expensive work, and cannot safely be spoken of in terms of "averages."

The Table B will illustrate the fact that, since *all* materials are never equally available in any one place, and that since *all* materials are not suitable for the architectural expression of every style, a certain amount of selection in the matter is automatically performed for us by natural elimination. Initial cost, too, might well prove the decisive factor.

After defining the several properties listed in Table C, it will be possible to apply this table, individually, to each of the types of building enumerated in Table A, considering material and construction as dually inseparable.

PHYSICAL PROPERTIES OF MATERIALS

By *character* in a building material, it is intended to denote certain general properties—to direct attention to such questions as whether or not a given material is, or appears, heavy, massive, ponderous or clumsy for a given purpose; whether it is, or appears, light,



Albro & Lundeberg, Architects

A CHARMING STUDY IN THE EXPRESSIVE POSSIBILITIES OF BUILDING MATERIALS

It is interesting to observe the decorative quality of the brick work, resulting from the use of special brick, laid up with wide white joints



Duhring, Otto & Ziegler, Architects

TWO INSTANCES OF THE DECORATIVE IMPORTANCE OF TEXTURE IN BUILDING MATERIALS
In the first, local Pennsylvania lodge-stone has been used, with white mortar joints emphasizing the material's character; in the second, common brick has been used with imagination, and embellished with cement casts of interesting antique fragments



F. J. Sterner, Architect

insecure, unstable. Decision here is a matter of architectural taste and architectural judgment.

Durability should require no definition, but is an important question to bear in mind with reference to selection. It is a consideration closely associated with that of *upkeep*, or maintenance, as an economic question. *Adaptability* is a property closely cognate with *character*, and is intended to direct thought toward the question of the suitability of a given material for use in a given design. In this connection it should be remembered that a skilful architect is capable of rendering the same set of plans, the same house, in fact, in entirely different materials. One of the illustrations shows two houses built from the same set of plans, one in rough-dressed ledge-stone, the other in rough-cast, or stucco, over stone. This same house could be rendered, with equal charm and propriety in brick or in half-timber construction, but not as agreeably in frame construction, especially if covered with clapboards.

PROPERTIES OF MATERIALS BOTH PHYSICAL AND ÆSTHETIC

One of the most important, as well as the least appreciated, properties of any material is its *texture*, which is a property both physical, or inherent, and æsthetic, or to be regarded as a factor in design and style. Not many years ago the textures of building materials were not only unappreciated, but were absurdly and unnecessarily disguised or simulated. At a dark period of American architecture, the good, honest, interesting texture of brick was disguised beneath a coat of paint. Wood and cast-iron were "sanded" to resemble stone, plaster was painted to resemble marble and common woods were "grained" to counterfeit finer woods.

The importance of *texture* in building materials will become further apparent as this chapter proceeds.

Colour in building materials is of importance equal to texture, and keen taste and judgment in this direction may attain results which may make, of a small and inexpensive house, a true work of art. In the matter of colour, an architect "paints" a picture with building materials just as an artist paints a picture with pigments—and the architect of artistic ability will consider the landscape as well as the house itself, and create a whole of true harmony.

ÆSTHETIC OR ARCHITECTURAL PROPERTIES OF MATERIALS

Stylistic suitability, as a consideration, is largely self-explanatory. Success has very seldom been attained in building a house of a given style in a material not characteristic of that style. Certain styles are definitely associated with certain materials. Spanish and Italian houses are of stucco and tile, with incidental details of wrought iron work: French houses of the formal type are of cut stone and slate, or of brick and cut stone—and so through many styles there will be found certain associated uses of material. In the subsequent detailed discussion of the types of building listed in Table A, lists will be given of the kinds of house which may properly be built in the materials and structural methods there enumerated.

Local suitability, as emphasised elsewhere in this book, should always be a strong factor governing choice, and will be found to be inseparably bound up with other considerations, such as *colour*. Local materials, generally speaking, are always to be preferred to those which are alien. A red brick house on a grey New England seacoast is unpleasantly conspicuous, and noticeably



D. Kufkerbocker Boyd, Architect



TWO EXAMPLES OF TYPICAL AMERICAN USES OF BUILDING MATERIALS
Colloquial uses of building materials have developed and been developed by such informal
traits in design as are to be noted in the two houses above



Mellor & Meigs, Architects

AN AMERICAN EXPRESSION OF THE MODERN ENGLISH COUNTRY HOUSE



Mellor & Meigs, Architects

**THE SAME HOUSE CARRIED OUT IN LOCAL STONE AND HALF-TIMBER
CONSTRUCTION**

It is seldom that a building designed to be built in one material will look well if carried out in another. In this case, however, both types of material are suitable, so that the matter may be regarded as one of choice rather than rule

“out of key” with its neighbouring houses and with the whole landscape.

In *expressiveness* there are involved all considerations, æsthetic and architectural, and it is intended by this term to suggest the importance of giving proper thought to *all* the qualifications or properties of any material which might make it suitable or unsuitable as a choice for any given building. *Expressiveness* as an æsthetic property is closely cognate with *adaptability* as a physical property—though the second might well exist without the full existence of the first.

ECONOMIC PROPERTIES OF MATERIALS

Under this head we find that the *inherent cost* of a given building material may be the factor dictating its choice or rejection. Common brick, for example, costs a certain amount of money per thousand in any locality—more in some localities than in others, but this cost per thousand may at once involve a house of greater expenditure than is possible. Brick, then, will be out of the question. *Local availability* may combine with *inherent cost* to prohibit the selection of a given material. If not easily available in a given locality, a material, the inherent cost of which in another locality might be within the cost limit, might be beyond the cost limit. On the other hand, ready local availability might make possible the use of a material in spite of its inherent cost—in a case, for example, where a material of less inherent cost would take on a considerable added cost (due to local scarcity) in transportation from a distant point.

Workability or *structural cost* is best known by the architect. Here the cost question is one of labour rather than material, though the expense in labour is directly due to the use of a certain material. Thus

the cost of erecting an actual half-timber house, with hewn frame and "nogged in" brickwork, far exceeds the cost of lumber or the brick regarded merely as materials.

In *upkeep*, as a cost consideration, are involved questions of permanence, low maintenance and imperivity. If low maintenance is desired, the initial cost of the house is naturally greater, by reason of the inherent cost of the materials making for low maintenance, and the involved cost of labour incident to the use of such materials. To be impervious to weather, the walls of a house must be of brick or stone, its roof of tile or slate, the fittings (called "flashings") about the chimneys and at the junction of roofs, as well as all gutters, rain-pipes and the like, must be of lead (or at least of copper), and the windows should be leaded metal casements, set in leaded metal frames imbedded in the masonry. Here would be a structure no exposed part of which could possibly deteriorate in centuries, even of severe weather conditions. English houses so built many hundreds of years ago still have the same flashings, gutters, rain-pipes, and casement windows that were built into them. Such construction is naturally expensive, even subtracting from the initial cost the yearly item of maintenance saved over a long period of years, and at best, we must reconcile our minds to the inevitable fact that, in the house contemplated by the average prospective builder, and even in the house contemplated by the millionaire, there will be some materials and finishes which will require occasional replacement or constant protection.

At this point we may apply Table C to Table A, with a view to comparing in detail the like types of construction enumerated in Table A by means of the

understanding of the properties of materials (in general terms) which has been acquired by the above study of Table C.

In this close discussion of the types involved in Table A, studied as subdivided in Table C, the item of *comparative cost* (appearing under *economic properties of materials*) is best segregated from so broad a survey, and will therefore be given here as a separate topic. Its consideration at the beginning is logical, in that cost is one of the first questions involved in the building of a house. The figures given in Table D, however, can only be regarded as an approximation, having been worked out by an experienced practical contractor, for purposes of comparison. In this table, a unit of cost of \$10,000 is taken as the basis of comparison, and it is hypothetically assumed that the materials listed are of equal availability. This, it is obvious, can be no more than an assumption, and the following figures would be affected, one way or another, by local conditions, not only in the matter of material but also in the matter of labour. A levelling of these extraneous questions, however, is necessary in a comparison which deals simply with the inherent cost of the material plus the labour involved in the type of construction called for by the use of that material.

TABLE D

Type of Construction	Cost of Outer Wall	Total	Per Cent. Increase
1. Frame, shingle-covered	\$945	\$10,000
2. Frame, clapboard-covered	985	10,040	.004
3. Frame, stucco on wire-lath...	1,171	10,226	.0226
4. Hollow tile and stucco.....	1,626	10,681	.0681
5. Brick (ordinary)	2,217	11,272	.1272
6. Stone (rough-dressed)	2,991	12,046	.2046
7. Actual half-timber	3,491	12,546	.2546

282 THE PRACTICAL BOOK OF ARCHITECTURE

In assuming the \$10,000 unit above, the assumption is that the *outer wall* is the only part of the house which is changed in the seven types tabulated—that we are considering seven houses in which all the interior work, the floors, fireplaces, plumbing fixtures, lighting fixtures, hardware, etc., are the same, so that the figures in the first column show the cost of the outer wall only. This method offers the most definite comparison of building costs. It will be seen at a glance, in this table, that the costs of a shingle house and a clapboard house are very nearly the same, and that there is not a great advance in the frame house which is covered with wire-lath and stucco. A marked advance, however, appears with the hollow-tile house, the next two types continue to advance, until in the actual half-timber house we find that the original \$10,000 house, identical in its interior construction and equipment, has increased in cost to \$12,546, solely by reason of the material and labour represented by the outer walls.

It must not for a moment be supposed that the figures in this table are to be regarded as of general application. Any definite figures on building costs must *always* be taken merely as a general guide, for anyone will readily appreciate the fact, for example, that the rough stone house, in certain localities, might cost less (by reason of ready availability of material), than a brick house in that locality, although the relation is exactly opposite in the table. In other words, the money saved on mason work in laying brick in a locality where brick must be transported from a great distance, might be more than taken up by the cost of that transportation.

Ordinary building lumber is equally available in nearly every locality, and the labour involved in car-

penry is standardised, so that the figures dealing with the frame house may be taken as of wider exact application than the others.

It will be well for the prospective builder to remember, however, that increases will occur in the cost of the inside according to the character of the outer wall. A brick house, for example, will usually contain better interior trim and detail than the frame house, and be a more expensive proposition in every way.

Having disposed of the cost consideration in the selection of a material, the discussion may now best proceed by noting the properties which appear in Table C as applied to each of these seven types of building.

The frame house, in general, has much to commend it, as well as certain disadvantages. Chief among these is the fire hazard, though much may be done to mitigate this by the use of fire-resisting paints and chemical preparations which impregnate wood, making it almost non-combustible. The character of wood adapts it to the small house, partly because the small house is unpretentious and simple, and because it expresses this quality of the small house.

In point of durability, wood need not be regarded as distinctly perishable excepting in comparison with stone or burnt clay building materials. Even in the rigorous climate of New England there are wooden houses which have withstood the heat and the storms of nearly three centuries, and which are still in excellently serviceable condition. It is not possible, here, to discuss in detail the properties of each of the building woods, such as white pine, redwood, cypress and the other woods more generally used for exposed work. Here is detailed data with which the architect is more

conversant, or with which the prospective builder may familiarise himself by reading or study of books from any library. Of these, perhaps the most comprehensive and concise is "American Forest Trees," by Henry H. Gibson.*

Wood is by all means an adaptable building material, being suited for both the structural and ornamental parts of a building. It may readily be carved, run in mouldings or turned in columns, balusters and spindles, nor is the working of such parts an expensive operation, as compared with the working of stone.

Of the texture of woods, little may be made use of in exterior work, on account of the necessary protective coat of paint. Semi-transparent creosote stains allow a certain amount of wood-texture to assert itself, and in addition to the more informal types of building, such as bungalows and cottages, the exposed timber-work in a half-timber house may be so treated. The same is true of *colour*. While the colour of an exterior wood is much to be reckoned upon in the design of a house, this colour is either that of some foreign substance, or the result of the action of weather, excepting in the case of the natural colour of California redwood. Thus, the "colour" of a wooden house may be white, with green blinds, because it has been so painted, and the shingled roof may be silver grey because it has been exposed for a certain length of time to the weather.

Many attractive effects may be obtained by the use of shingle-stains, which not only add to the shingle some interesting colour, but also preserve it. A shingle roof, or wall, should never be stained after the shingles are laid, but each should be separately *dipped* in the stain.

In point of stylistic suitability, wood construction

* Published by the "Hardwood Record" Magazine, Chicago, 1913.

will be found appropriate especially for houses in Colonial and Georgian Colonial styles.

Dutch Colonial farm houses, too, as well as many of the large Southern manors and the Creole plantation villas, were built of wood. The architectural status of the bungalow is so uncertain that wood is quite as appropriate for its construction as many other materials.

The frame house, with stucco applied over wire-lath (a metal mesh nailed to the frame), may be designed along lines Spanish or Italian. The construction, of course, is an imitation of more stable forms, yet is permissible on the score of economy. Many attractive cottages and small houses have utilised this method of construction, because a variety of harmonious colours may be mixed in the stucco, and if the design is not for a large and pretentious building, there is little to be said against it. The chief caution to be observed in the building of a frame house which is to be treated with wire lath and stucco is to be exercised in the architect's and contractor's supervision, to prevent the application of the stucco until after the framework of the house has thoroughly settled into place. If the frame settled or warped even a little (which all house frames do), it is obvious that the wire lath fastened to it would also settle or warp with it, inevitably cracking the comparatively thin coat of stucco.

The question of local suitability has been enlarged upon in too many other parts of this book to require further mention here. It is tabulated in the list of essential considerations of building materials because of its importance when choice is being made.

The property of "expressiveness" is closely cognate with the property of adaptability—wood as a house

material will always typify simplicity of the kind which characterised the homes of the first American colonists—it will always be a fitting material to express the domestic intent of the cottage and the informality of the bungalow. For the “economical” properties of wood as a building material, the reader is referred to Table D—its low cost being a result not only of comparatively low inherent cost, but of low labour cost in working it. Local availability will prove a pertinent cost factor, for while lumber may be obtained in nearly any locality, the mere cost of hauling from a lumber-yard to an isolated site may influence the total cost surprisingly.

In the upkeep, or maintenance consideration, there lies, perhaps, the greatest factor tending toward the choice of more permanent materials. Wood must always be protected, and painting is not an inexpensive item. The frame house, coated with stucco on wire lath, has an advantage over the clapboard covered house, in that the side-walls require no painting. It is true that many historic old farmhouses have gone for years without being touched by a paint brush, and their yearly increasing greyness, embellished even by lichens and moss, has but added to their picturesque charm. It might be possible to invite the years and the elements to add to your house the honest appearance of old age, if its location were either remote, or along a roadside where every turn disclosed an ancient farmhouse. In a smartly kept suburb, however, it is to be feared that the adjacent property owners would prosaically fail to appreciate this natural process of “antiquing,” and would formally protest at the allowance of any dwelling so “shabby” in such an “improved and restricted” environment.

With the hollow-tile house fourth on the list in

Table D, there is to be considered a distinctly interesting type of construction, and one which lends itself with peculiar versatility to the rendering of both historic and essentially modern architectural styles.

The unit of construction in a hollow-tile house is the tile, which is usually eight inches, and sometimes ten inches, in thickness, and corrugated in such a manner as to receive directly a coating of stucco on the outside of the house, and the application of the finished plaster on the inside. It is usually found best, however, not to plaster directly on the inside surface of a hollow tile wall, but to give this surface a heavy coating of bituminous water-proofing, with the inside plaster applied to wooden or metal lath on "furring." "Furring," in this case, designates two-by-four inch lumber or lighter stock, fastened to the tile wall in order to afford a nailing for the lath, and to place the inside plaster out of any danger of cracking or disintegrating on account of the inevitable capillary attraction of water from outside, through the pores of the tile.

The superficial physical character of hollow tile is, of course, never apparent, since it is but the base for a coating of stucco. For durability, including its fire-proof property, hollow tile is an excellent choice, nor is it by any means a material which is non-adaptable to many types of building.

Types of building which may well be considered as logical and agreeable opportunities for the use of hollow tile and stucco range from the smallest bungalow to the largest country or seashore hotel. Renderings of the Spanish mission type, and of the Spanish or Italian villa type, are obviously a logical use for this construction, and that modern adjunct—the private garage—is a particularly fitting building for the use of hollow tile.

Reference to Table D will show us that hollow tile and stucco, while more expensive than stucco on wire lath, is far lower in cost than brick.

In considering the brick house, there is considered "the house permanent." Brick will not burn, crack or decay, and by reason of the small size of the brick as a unit of design, it affords a remarkable medium for architectural expression. Brick-building as it is seen to-day is a thing of but few years' growth, and is a wide departure from the misuse of brick which characterised the Victorian period. The bricklayer of 1880, and for more than a decade thereafter, was taught that the *desideratum* in a brick wall, above all else, was absolute uniformity of surface and suppression of the texture of the brick itself and of the joints between each brick. The most sought bricks were the smooth, pressed kind, and these were laid with almost invisible mortar joints, in effects which possessed no more character or interest than a piece of oil-cloth. It seemed that there was a total ignorance of the very important fact that the brick is a unit of interest in itself as well as in relation to an entire wall, and consequently there was no appreciation of the endless possibilities of colour, texture and pattern in brick work.

If the builders of this period, however, had been no worse than merely stupid, and had confined the ineptness of their efforts to mere monotony and unimaginativeness, one might overlook the surviving monuments to their stupidity. But they did a thing which was far worse: they painted brick work. The more conservative used a rich red, unlike any honest brick, and this they embellished by picking out, with painful uniformity, imaginary joints entirely regardless of the real joints, in black or white paint. The more ambitious

went further, and most of us have seen some of their masterpieces. They painted their brick work a dismal, sallow sort of yellow, with dark red joints (imaginary) or, in still more gorgeous flights of fancy, used a weird and horrible green, unlike any colour in the world, and, according to taste, painted imaginary joints upon this, in black or white.

This painting of brick work is here enlarged upon, because it is an admirable illustration of the absolute dishonesty and undesirability of denying the true texture of a building material. This is further apparent from the practices which painted brick work encouraged. Builders saw that it was not even necessary to use brick to build a brick wall—since the material in a real brick wall was entirely disguised by paint. A rubble wall, then, with a smooth coat of stucco or plaster, was often painted with a pattern of perfectly uniform “brick joints,” and the writer has even seen examples of this kind of “brick work” in which the “bricks” were actually *veined* to resemble (one must suppose) marble. Architectural insanity could no further go—and we had better follow the swing of the pendulum away from this negation of texture and structural properties toward the dawn of architectural appreciation and clearer vision of such things.

The turning point came with an appreciation of the beauties of very old American brick work, specifically, of the interest and variety apparent in the first brick buildings of Harvard College, in Cambridge, Massachusetts. A few discerning architects, studying these buildings, and some other early examples, noticed that there was a considerable range of colour and some natural effect of texture, as well as an often recurring

note of interest and variety in the appearance of odd burnt or discoloured brick-ends here and there.

In the days when these early buildings were erected, brick was scarce, and the mason could not afford to throw out all the bricks with burnt ends, the bricks which had been on the insides of the stacks in the baking kilns. Later these bricks with ends burnt purple, black, dark blue or olive green were deliberately selected by the mason for use in drains, or in the foundation walls below grade. They were "inferior."

With the dawn of the new era of brick-building, however, these same naturally burnt bricks were keenly sought by architects, and were at first known as "Harvard" bricks. Architects began to work out patterns in brick work, or to introduce burnt brick-ends at random in their work, and in the course of time it was noticed that a single brick might be more interesting than the whole wall.

In other words, the brick became properly recognised as a *unit* in design, as it is actually a unit in construction, and with this recognition came the "raked joint." This kind of joint, formed by raking out a little mortar, allowed each brick to stand out a little, and immediately there was a new effect of *texture* in the whole wall. This came before the development of texture in the brick itself.

A brick wall came to be desired, as it should be, because of its character and expression. It was rediscovered to be an honest building material, beautiful and adaptable as well, and endowed with qualities of permanence, fire-resistance and stability.

It was a natural thing, at this point in the evolution of brick-building, that the possibilities of the individual brick became further developed, and several discerning

manufacturers began to produce beautifully coloured bricks, wherein all the hues were achieved in the burning, and all were in tone with the softer and more harmonious colours of nature—olive and sap greens, greys, browns, tans, purples, dull blues and oranges. There are now highly æsthetic “scales” of colour in bricks—scales with which it is possible to effect the most subtle and pleasing schemes. A brick which is green because it is *painted* is a grievous affront to any decent person; but a brick which is green through and through, because it is *baked* green is a very different thing.

But the difference is more than one of dishonesty and honesty, or surface deception and real material—bricks of to-day have in themselves, individual and interesting *textures*, as distinctive as the texture of a woven fabric, or the textures of different stones.

Nor has the effort been confined to colour and texture—special shapes, too, have been devised, longer and more flat than the standard “2-4-8” brick, so that it is possible to effect strong expressions of the *horizontal* characteristic of brick courses.

The prospective builder must remember, however, that these new and special bricks, of distinctive colour, texture and shape, are considerably more expensive per thousand than “ordinary” brick, so that the figure quoted for the fifth type of house in Table D must be taken as low for a house designed to be faced with “special” brick.

Having pursued to this point a necessarily curtailed history of the evolution of brick work, it now remains to direct upon brick, as a building material, the several considerations listed in Table C.

It is not necessary, perhaps, to elaborate greatly

upon these various properties as applied to brick: as used to-day, brick has every opportunity to interestingly assert its *character* as a burnt-clay product; its *durability* is an inherent quality, the same in ancient times, to-day and always; its adaptability is exceptional, for effects of heavy mass, of delicate detail, and even of mere surface decoration may equally readily be obtained.

Of *texture* and *colour* enough was said above to suggest to the prospective builder the present-day possibilities of brick in both these particulars.

In point of stylistic suitability brick has certain limitations. It is, of course, a universal material for schools, hospitals, clubs and a wide variety of other types of large, permanent buildings, including armories. It is the material above all others to use in a church of Romanesque design. Certain types of English country house demand the use of brick, as well as certain types of early American house, either in town or country. "Independence Hall," in Philadelphia, is a model for a style of city building in brick, stone and wood which, for its type, has never been improved upon. The French château, if not built entirely of dressed stone, was very often built of brick with dressed stone quoins, copings and trim, the brick portion usually handled with remarkable charm and interest. In the Italian villa, however, the flat stucco wall-surface was prevalent, despite the fact that Renaissance architects showed marked ability and evident pleasure in the material in many of their city buildings. (McKim, Mead & White, in fact, ushered in their great American revival of Italian Renaissance architecture by designing several important city structures in the Italian manner of brick building.)

Considering the aspect of *local suitability*, it must be remembered that brick is not always appropriate. This is especially true of most localities in New England, where brick has always been comparatively scarce and used for little else but chimneys. By reason of the presence of extensive local clayfields, Pennsylvania, New Jersey and Maryland make the natural *habitat* of the brick house, although, of course, there are many brickyards in many other parts of the country.

Of the *expressiveness* of brick as a building material, enough was said in the foregoing sketch of the "evolution of brick work" to suggest the great range of expression which the intelligent appreciation and use of brick work lays open to the architect.

The items of *inherent cost* and *comparative cost* may be deduced from Table D, and must be recognised as varying considerably in different localities. The prospective builder is again reminded, also, of the greater cost of "special" face-bricks, which a restricted total expenditure may confine to a little interior use as an excellent material for fireplaces. The item of *local availability* is closely linked with the cost considerations, or they with it, and it must be remembered that a brick house near Trenton, New Jersey, will "figure" very differently from the same brick house at Marblehead, Massachusetts.

A large part of the cost of a brick house, after the inherent cost of the material is figured, lies in the structural cost, due to the fact that brick, a small unit, builds up slowly (as compared with the large hollow tile units), and calls for skilled labour, especially where effects of unusual pattern or jointing are called for.

In the *upkeep*, or maintenance consideration, lies one of the most conspicuous and undeniable recommen-

dations of brick as a building material. Even if a poor mixture of mortar has been used (too much sand and too little cement), it would be over a generation before the joints required "pointing" on account of the disintegration of the mortar, and if a well-mixed cement mortar has been used, there is constructed a wall of splendid impervity and permanence.

It is suggested here that the prospective builder direct a little conscious observation upon the examples of brick-building which he daily sees about him, noting the degree of success or interest attained (or the lack of either) in details of colour, texture, pattern and the like. Let him imagine some kind of brick work which attracts him, as applied to the house he is about to build, become aware of the reasons why the brick work of the 80's appears so dismal and stupid—let him become, in short, a competently intelligent amateur critic of brick work, so long as he does not cultivate a delusion that he knows more about it than an architect. It is impossible in limited compass to discuss and illustrate every type of brick work, which constitutes a study in itself, and the writer is convinced that it would be far more valuable for the reader to cultivate for himself as much personal discrimination as possible in the matter.

The discussion has now reached the sixth type of house listed in Table D—the house of "rough-dressed" stone, by which is understood the house very often alluded to as "fieldstone." Fieldstone may, indeed, be the material, but this must be "dressed," or roughly squared up in order to effect a good wall. If not gathered from the fields, or from old walls, this stone may be locally quarried from a ledge, as in the case of the well-known "Chestnut Hill" stone, which has afforded



D. Knickerbocker Boyd, Architect

A GOOD RELATIONSHIP OF DESIGN AND MATERIALS

The informal and picturesque character of the house finds excellent expression through the use of informal and picturesque building materials



Duhring, Okie & Ziegler, Architects

AN EXPRESSION OF TEXTURE IN BUILDING MATERIALS
Ledge-stone, used for the walls of this house, has been "roughcast" with stucco and whitewashed



H. T. Lindeberg, Architect

THE USE OF STUCCO AS AN EXTERIOR FINISH
Houses in several styles may be acceptably rendered in stucco—notably those of Spanish or Italian origin, as well as such houses as the above, derived from the modern English type

the Philadelphia architects such a thoroughly colloquial and charming building material.

The use of stone from old walls is highly to be recommended, because much of it has been roughly dressed perhaps a century or more ago, so that the faces are weathered to a fine colour of grey. In any case a stone which will naturally split into comparatively thin pieces is desirable, because it will lay in even, horizontal courses, and may be laid up with very little mortar appearing in the joints. The abomination in rough stone-masonry is the wall of round cobble-stones, obviously calling for mortar as a necessity for the stability of the wall, and forcing into an unnatural use a building material which could never have a natural use. The ideal rough stone wall, according to the technique of stone-masonry, is the "dry-wall," or wall in which no mortar whatever has been used. While such a wall, of course, would not do for house construction, it is possible and much to be desired for porch or pergola posts and for garden walls. The dry-wall, obviously, calls for a high degree of skill on the part of the mason, as well as for the local availability of a ledge-stone which will split to lay in flat courses. Any stone resembling slate will be found very adaptable in this respect.

The *desideratum*, then, in the wall of rough-dressed stone, is the nearest possible approach, in appearance, to the dry-wall.

The interesting expedient of using a great deal of mortar for the walls of a stone house, and giving the whole a coat of whitewash or white paint is a "special" type of rough-dressed stone work, intended to-day to recall the very early American colonial farm-houses which were treated in this manner. Here, however,

are involved considerations of historical or antiquarian aspect, rather than structural.

Further and more specific points in connection with the house of rough-dressed stone may be brought out by reference to its properties as listed in Table C.

Of the physical properties of rough-dressed stone, little need be said. Its *character* is peculiarly interesting and naturally full of diversity and variety, and there need be no question as to its *durability*. *Adaptability* as applied to rough stone cannot be stated in a fixed rule because stones vary, geologically, according to locality, some proving far more adaptable than others, and a few proving actually impossible to use.

In point of *texture* and colour, rough stone work has no competitor, for neither art nor science has so far improved upon Nature in these particulars. The skilful stone-mason will select the stones with thought of texture and colour constantly in his mind, and create a wall which will be a permanent delight and satisfaction to the eye, becoming increasingly beautiful and charming with age and growth of vines.

When *stylistic suitability* is considered, there become apparent certain definite limitations for the use of rough-dressed stone as a building material.

Primarily, it has proved in every respect an ideal material for the present-day revivals of early American farm houses, notably in the vicinity of Philadelphia, and in general it is an admirable choice for the rendering of any bungalow, cottage or house of the "picturesque" type. No material is better suited to the construction of any house in mountain or seashore surroundings, and, obviously, no material can possess stronger values of *local suitability*.

Expressiveness in buildings of rough-dressed stone-

work will depend largely upon the physical properties of the stone, and upon the technical skill possessed by the mason engaged to lay the walls. It will be found that few brick-layers are equal to the undertaking, which requires a great deal of experience, where the best results are desired, and the best course to pursue is to institute inquiries in the neighbourhood. In virtually every locality where suitable building stone is to be found, a short search will disclose a local stone-mason, usually a "character," but nearly always a remarkably skilful artisan, and a man experienced through years of local "job work" in laying up just the kind of stone which exists in the locality to which he is native. Obviously such an artisan, although technically untrained, will be found to lay up the best stone wall—he is familiar with every peculiarity, possibility and restriction of the material he has so long been called upon to build into chimneys, foundations and sidewalls for the folk of the neighbourhood. He may be employed directly by the contractor.

Confronted, now, by the cost consideration, both *inherent* and *comparative*, reference is again made to Table D, and the prospective builder will realise that the governing factor here will be item "c," or *local availability*. Cost, obviously, would be prohibitive if no suitable building stone existed near the site of the house, unless its use were restricted, perhaps, to a fireplace or a chimney. It should be remembered, however, that rough stone is, of all materials, a *local* one, and a *naturalistic* one, and hence a poor choice for any building in a locality to which it is not native. The use of rough stone, in such a case, becomes an affectation instead of an expression of rugged sincerity and structural honesty.

The working-cost of rough stone will be found to vary with the nature of the stone, and with the advantageousness of the bargain which can be struck with the aforementioned local stone-mason. In any case, the cost of handling and laying up rough stone, all other things being equal, exceeds that of brick.

In *upkeep*, or maintenance, it is obvious that the stone house is a permanent and substantial affair—a dwelling for all time. Many of the most ancient houses in this country are of rough-dressed stone—a splendid building material in every instance where its use is to be regarded as logical and possible according to the considerations set forth in Table C.

Our commentary on building materials has now reached the last, or seventh type listed in Table D—the house of actual “half-timber” construction, and here we are considering a building which differs from others not in respect to the materials used, but rather in respect to the manner in which they are used.

Before proceeding with a brief discussion of the actual half-timber house, it is necessary to speak of the house which is not of half-timber construction, although thoughtlessly so called. It has been apparent to architects, for some years, that the purely *decorative* aspect of half-timber work could add greatly to the appearance of the small house, while its *actual cost* would render it prohibitive. The “patterns” characteristic of half-timber work, especially in the gable ends of houses, were appreciated as highly effective from the *design* point of view, and so the effect only was produced, by a perfectly out-and-out “fake.” There is, perhaps, no serious charge to be brought against the practice, so long as there exists no intent to deceive—so long as the work is obviously a decorative makeshift, and not a



Upjohn & Copple, Architects

THE HOUSE OF ACTUAL HALF-TIMBER CONSTRUCTION

In the true half-timber house, the frame of the house is exposed, and the spaces between the timbers are filled in with brick work

structural deception. One would prefer, of course, a real half-timber house, but reference to Table D will remind the prospective builder that he is considering the most expensive type of construction there listed. The "imitation" of half-timber work consists of applying, on a stucco exterior wall-surface, thin boards (usually stained brown) arranged to represent the posts and braces which were developed to form natural and structural patterns in actual half-timber work. There is, for this reason, more palliation for the imitation "half-timber" house wherein mere superficial "patterns" are contrived, than for the imitation which attempts to represent structural members which do not exist.

The real half-timber house is a thing of architectural merit and beauty for the reasons that it expresses in an entirely logical and perfectly frank manner, its construction, and because it affords an opportunity for marked diversity and interest not only in its materials, but in the manner in which these are used.

In an earlier part of this book, some mention was made of this type of construction, but repetition may be pardoned in the present chapter. In the actual half-timber house, the wooden members forming what appears to be a "pattern," (as in the garden front of Tangley Manor, shown in the frontispiece) are the actual framing timbers of the building exposed—its posts, sills, studding and corner braces. The spaces between these structural members, in the actual half-timber house, are filled (or "nogged") with brick work, which is either arranged in interesting patterns, to show as brick, or more plainly built in, to be concealed with a coat of stucco.

It is obvious that here exists at once an opportunity

300 THE PRACTICAL BOOK OF ARCHITECTURE

and a task—an opportunity to show interesting texture in the wood-work, by means of rough-hewing it and leaving visible marks of the adze, as well as to show endless diversity in the brick “nogging,” or subtle colour in the stucco coat.

The carpentry involved, as well as the skilful masonry, are the items which mount up the cost, rather than the actual materials used.

Oak, of course, is the best wood for the posts and braces, and in this item “inherent cost” is a factor, because heavy pieces are required, and pieces reasonably free from defects of any kind.

The half-timber house, considered under the several points listed in Table C, will be found to possess a high degree of desirability, with its chief drawback represented by the cost considerations, inherent, comparative, and every other item of cost.

Half-timber work possesses by all means, *character*, and the ancient buildings of England and the Continent testify to its *durability*. In point of *adaptability*, it should be self-evident that skilful artisanship, in this case real *craftsmanship*, can perform wonders of structural ingenuity.

Half-timber work, like any other frank and sincere use of materials, will be found rich in values of *texture* and *colour*.

The *stylistic suitability* of half-timber work is confined to derivations of the Elizabethan English country house, as well as the town houses of the period, though in the latter, modern city fire laws will either exclude the type or necessitate a fire-proof “effect” of half-timber work. Half-timber work was also largely used in the mediæval buildings of France, Germany and the low countries, but American derivations of these are

by way of being architectural curiosities, albeit the writer could cite several interesting examples.

. *Local suitability*, of course, would exclude the half-timber houses in America, but the same consideration would exclude many other types of buildings which we have thrown (with greater or less thought) into our architectural melting pot, and we will therefore ignore it in this instance.

Certainly no type of construction, or no use of materials, could possess greater or more directly obvious qualities of *expressiveness*.

The first four items listed in Table C under "Economic Properties" have been discussed earlier—the last, or *maintenance* consideration, may quickly be dismissed by reference to the ancient half-timber buildings of Europe, as staunch and sound after centuries of existence as in the time they were built. Oak does not decay in centuries, and the "nogging" between the structural members is, of course, impervious and permanent. The obvious accompaniments for the half-timber house are casement windows, the overhanging second story, the picturesque roof-line and quaint chimneys. Taking it *in toto*, the half-timber house is an undertaking for the experienced, scholarly and imaginative architect, and is a type of house which the prospective builder must expect only with the inevitable increase in cost, throughout, over a house of any of the six other kinds enumerated in Table D.

In concluding this chapter, it remains only to offer a few observations on the mingling of two or more materials in one building—a question upon which there has been an extraordinary diversity of opinion on the part of architects and amateurs alike.

The most important general admonition, perhaps, is against the combined use of perishable and imperishable materials in the same house, as in a structure with first story of stone, brick or hollow tile, and the second of frame construction. A fire-proof roof, of slate or tile, on a frame house should be palpably absurd, but instances exist.

Broadly speaking, most combinations of impervious materials are permissible, notably: the hollow tile second story on a base story of brick or of rough-dressed stone. Rough-dressed stone and brick, used together, must be handled with a considerable degree of architectural ingenuity, of which striking examples may be seen from time to time, as well as lamentable failures. It was remarked in an earlier chapter that much of the charm of the modern English country house is due to a colloquial and idiomatic use of varied building materials, skilfully and informally blended to create charming and interesting effects.

Variety, like originality, inevitably leads to architectural disaster if it is made an end in itself, and pursued without real and sincere design. If a certain portion of a building seems, from its structural nature, to call for the use of a certain material, variety becomes a logical factor in the design—otherwise it is as worthless as any other architectural *tour de force*.

It must be remembered that the foregoing observations upon the properties and uses of certain commonly employed building materials are intended to apply only to *exterior* work. While many of the same considerations may be applied to interior work, it is obvious that there is greater latitude in every direction, within the house, so that a discussion would involve extensive

reference to interior decoration, furniture and the like, properly to be taken up as a separate study.*

It can only be observed that a certain degree of consistency should be apparent in the exterior and interior of any building. The house of architecturally pretentious or imposing exterior should not conceal mean interiors, nor should the humble cottage house within its walls disproportionately elaborate or magnificent interiors. Here one invades the realm of "good taste" in general, as well as of architectural propriety in particular, and the best rules which could be formulated would not prove of as great value as an ounce of common sense.

In the following chapter there will be considered several important aspects of the proposed house which may be regarded as existing irrespectively of the architectural style in which it is designed, or of the materials which have been chosen as most appropriate for the rendering of that style.

*"The Practical Book of Interior Decoration" is already in advanced preparation and will be issued in 1917.

CHAPTER IV

PLANS AND DETAILS

DIFFERENT KINDS OF PLANS. IMPORTANCE OF A DEFINITE METHOD OF PROCEDURE IN DEVELOPING BOTH PLANS AND DETAILS. NOTES ON WINDOWS, DOORS, CHIMNEYS, STAIRWAYS, ETC. WOODWORK, INTERIOR TRIM AND FINISH, HARDWARE, LIGHTING AND PLUMBING FIXTURES, ETC. THE BEST MANNER IN WHICH TO INSURE THE FULFILLMENT OF REQUIREMENTS

IT is the purpose of this chapter to offer a few *general suggestions* to the prospective builder in matters relating to plan and detail—suggestions designed to stimulate observation of houses seen, and study of houses which may attract attention through the pages of a magazine. And it should be kept in mind that these suggestions are not to be taken, necessarily, as *recommendations*, because nearly every house involves different problems and requirements. Having given thought to some of the following points, however, the prospective builder will be better equipped to discuss them with his architect. Advice which is didactic and specific, especially in the design of a house, often defeats its own end. The prospective builder, having read somewhere that a certain point is essential, fails to recognize the fact that, in his particular case, it may not only be unessential, but actually detrimental. Having it, however, “on authority,” he is inclined to doubt the ability or the integrity of the architect who advises against it. Considerable allusion has been made elsewhere in this book regarding the “advice” of one’s friends. In this last chapter the writer, recalling many instances in which “friendly,”

but absolutely ignorant or prejudiced advice has wrecked a building project, feels impelled to make this one last mention of it. It is the one most distressing factor which the architect has to contend with in the practice of his profession, and which the client has to contend with in formulating his ideas.

Nor does the writer wish to commit the same offence of officiousness, and would far prefer that the prospective builder regard the following paragraphs as "things to think about," and not as *advice*. The thoughtless "adviser" is apt to forget that what is one man's meat is another man's poison, and that the very suggestion which might vastly improve one house might entirely blight another. To the prospective builder, without experience or training; all advice is the same—that of his friends and of the popular magazine articles. The mistake he usually makes is in failing to lay all his doubts and fears before his architect—the man for whose trained professional opinions and guidance he is paying a fee.

Certain features of plans exist irrespective of the style of the house, while certain other features are influenced by style or by some other factor.

Proceeding on this fact, it might be stated that provision for the individual's family needs will govern the plan in any case, be it large or small, regular or irregular. Certain features which he personally desires will be provided for whether the style be English or Italian, the cost \$10,000 or ten times that amount.

Beyond this, however, the very basis of the plan may be dictated by the historic style of the house, or by the site it is to occupy. A house of formal, balanced design would ill-grace a rocky hill-top, even if it could be practically carried out, whereas such a site should

at once dictate a house of irregular and picturesque plan, in conformity with the irregular and picturesque exterior aspect it should present.

While it is never advisable to "develop" a plan from an exterior, it is evident that certain types of exterior will, to some extent, govern the plan, and certain exterior features will need to be provided for within. The proper procedure is to develop plan and exterior coincidentally, so that each logically expresses the other. Such development, carried out with perfect balance and harmony, is "architecture," and is the kind of dual designing which the architect's training has taught him to perform. The amateur's tendency is to visualise only the plan, or only the exterior, with the result that when plan and exterior come to be worked together, many features will be found incongruous, incompatible or inconsistent, and will need to be changed. The problem is not unlike that of the development of the successive floor-plans, which must not only be convenient and logical in themselves, but in relation with each other.

The relationship of plan to style is more obvious, and even an amateur realises that a Southern manor, for example, which presents superficially a central colonnaded portico with two uniform wings on either side, must present within a plan possessing, fundamentally, symmetry. A rambling English country house, on the other hand, expresses by its informality and irregularity the fact that its plan is full of unexpected turns, with wings splaying off from the main house at angles, and with no system of axial balance or alignment.

In this relationship, the prospective builder must remember that some degree of consistency should be

observed—if he wishes a picturesque and irregular exterior, he cannot expect, within, a symmetrical and axial plan: if his dreams have centred about a quaint, rambling plan, full of unexpected architectural vagaries, he must dismiss all thought of anything resembling a classic Georgian exterior.

Governing the entire proposition of the plan, however, should be the actual practical needs of the family which is to occupy it. And in order to secure the best results from the architect's work, the prospective builder should, at the outset, acquaint the architect with every detail of the family needs. A studio? a nursery or play-room? a music-room? a study or library?—these requirements must form the basis of the plan, if the house is to be an abode of permanent satisfaction.

The plan of the large house presents comparatively few difficulties. Its site is ample, the expenditure for its erection is ample, and the architect finds it a relatively simple matter to include due provision for his client's every need and requirement.

The plan of the small house is a very different matter, the problem resolving itself into a test of architectural ingenuity. The site may be restricted, the expenditure undoubtedly is restricted—the architect's task is to develop a pleasing, convenient and adequate abode in spite of these restrictions.

It is safe to say that the usual mistake in the small house plan lies in lack of foresight, and the result is a cramped plan, made up of a number of small rooms. The plan of any small house which is intended as a permanent abode, should be definitely laid out with a view to *future enlargement and addition*. In this way it is possible to commence building operations with a

smaller amount of capital than would otherwise be necessary, and to develop the house in a perfectly logical and natural way. It will express with charming directness the growth of the family, and will possess for all time a degree of symbolism and meaning which could be attained in no other way.

In any consideration of planning, due thought should be given to the *kind* of interior desired, as this may materially affect the shapes of some of the rooms, or the layout of the stair-hall. Consideration, too, should be given to the furniture, whether this is already in the owner's possession or is to be selected after the house is built.

If the first is the case, and the furniture is of good design, the furniture should govern the character of the interiors—an appropriate architectural environment should be created. If the second is the case, the character of the interiors should dictate the choice of the furniture—and the furniture considered in relation to the architectural setting it is to occupy. As a practical detail, dimensions of any large pieces of wall-furniture should be given the architect, so that he may provide proper places in the plans. This bit of foresight may save expensive alteration, or a distressing incongruity later. In point of style, a word to the architect on such a detail as either possessing, or desiring, a set of Chippendale dining-room furniture, for example, will insure the proper architectural setting. The relationship between architecture and furnishings should always be visualised as vividly as possible, for the greater the variance in style or character, the less harmony the house will possess.

It should be remembered, in studying dimensions on the plans, that furniture will make all the rooms

seem smaller, and some thought should be given, in each room, to the possibilities of furniture placement, and the effects which will result. An extra set of blueprints, indeed, might well be kept apart from the others, as a set of "furniture plans," the location of the principal pieces in each room being sketched in with yellow crayon. The scale of one-quarter of an inch to the foot (at which the plans are drawn) should be followed, so that the actual dimensions of wall spaces would be known in advance. A bureau, for example, four feet wide, would be sketched an inch wide on the plans. With these notations, fully worked out, a conference should be had with the architect, who may suggest some better placement of the furniture, or may, with this data before him, find it advisable to make a few slight alterations in the plans. How often a house has been built, and the lament has arisen: "But there is no place for our big sofa—what a stupid architect"—and no thought was given to the fact that the architect had never been told that there existed a "big sofa." He has many abilities, but among them he is not a clairvoyant.

Beyond the important question of considering the relationship of architecture to furniture, and *vice versa*, we are, perhaps, trespassing on the field of interior decoration, which will form the subject of an entire book in itself, issued in the present series.

Reverting to the provision in planning which should be made for individual needs, it is well to remember that herein lies an important difference between the "ready-made" house, and the house which is specially and intelligently designed. In the "ready-made" house, there will be no studio for the artist, no study for the writer, the doctor or the lawyer. There will

be no nursery, or play-room, and no workshop for the man who finds his relaxation in craftsmanship or carpentry.

There is an interesting tendency at present to incorporate the garage in the house itself, which, if skilfully compassed, is advantageous and convenient in the small suburban house on a small lot—the owner, of course, his own chauffeur. The fire-hazard, however, should be thought of by all but the ultra-careful man.

Among desirable plan features which might be listed as “reminders” are the following: rear or side entrance for the children, a downstairs wash-room or lavatory, ample coat-closet (preferably with a window), back-stairs (or at least a stair which joins the main stair part of the way up), laundry chute, broom-closets (easily provided for)—and above all, a large bath-room—two of them, if possible. It is a curious thing that even in the modern house people have a notion that the bath-room may well occupy any small left-over space in the second-floor plan, whereas it should be regarded as one of the most important features of the second floor, and planned as a room, with ample windows and ample floor-space.

Despite the time-honoured jokes at the expense of the architect, it is doubtful if his plans ever omitted closets. The woman usually looks at the “closet-room” in a plan before she considers any other feature—but she should remember not to let her zeal and concern in this direction cause her to overlook other things which are quite as important. Whether or not as a result of the reiterated accusation of the feminine client anent closets, it is a fact that the architect of to-day is more likely than not to plan closets which are actually magnificent—really large enough for dressing-rooms, and

often provided with a small window. For purposes of air and light, the closet with a window is by all means an advance over the dark "poke-hole," its contents lost in Egyptian darkness, and never ventilated. If it is not found possible to make the closets of more than usual size it is well to provide a small store-room. This is sometimes feasible when larger closets would largely disturb the plan.

In general, the plan should be studied to possess good circulation, good access from room to room, conveniently located bath-rooms, no narrow or dark hallways—and it should aim to make the most of *vistas*—of the glimpse of one room which is to be had from another, or from the hall. This, of course, is most important in the planning of the first floor, and will lead to a careful consideration of too abruptly mixing different period styles.

An "Adam reception room," a "Jacobean library" and a Georgian dining-room may all dwell, with other "period rooms" as well, beneath the ample roof of a palatial country house, but there is danger of a distressing effect in such catholicity in the small house, which is at its best when it is *consistent*.

An American innovation of increasing popularity is the "sleeping porch," and in its introduction the architect is usually called upon to exercise his keenest ingenuity in making the necessarily wide and unbroken openings a harmonious part of the exterior. Another innovation is the "solarium," or sun-parlor, which is sometimes nothing more than a glassed-in porch, opened to the air in summer, but is often made a distinct room in itself, permanently a "solarium," with a fireplace, and often an attractive semi-outdoor treatment of "treillage" on the walls, and tiles on the floor.

Two other plan-features, however, have not been developed in the American dwelling to a fraction of their possibilities—the *patio* and the terrace.

The *patio*, of course, suggests a moderately large, or a very large house, though many comparatively small Californian houses have been built about three sides of a garden court, or entirely surrounding it. One can visualise attractive introduction of the *patio*, if reasonably small, covered with a glass roof in winter, and taking the place of the solarium. A *patio* invariably makes for an interesting plan, and a plan in which virtually all the rooms may have lighting from both sides, as well as charming glimpses from the windows, especially if the *patio* boasts of a fountain or a pool, besides its floral embellishment.

In speaking of the terrace as a neglected opportunity, reference is not made to the large garden terrace, but rather to the terrace which is really little more than an unroofed porch. If placed on the eastern side of the house, it will always be in the shade during the latter part of the afternoon, and if it is planned to adjoin the dining-room, tall French windows will invite an after-dinner stroll *au plein air*, or a pleasant retreat for after-dinner coffee. Porches are often omitted because the porch roof darkens the adjoining room within, although it might otherwise be very desirable to have greater provision for the enjoyment of a splendid view, or a prospect of the garden. And the open terrace, even if it need be occupied while the sun is upon it, may be attractively and practically enlivened by two or three large umbrella-awning or canopy tables, with wicker or painted-wood chairs.

It would not be possible to enumerate all the features of a set of house plans which might prove

desirable or attractive, because conditions and preferences are infinite in their variety. The foregoing paragraphs are intended, rather, to suggest a few of the more pleasing features of plans which are not apparent in "ready-made" or ill-designed houses, and to suggest as well, that many of these features may easily and inexpensively be incorporated in a set of plans while they are in a "formative" state.

In the same manner, and with the same intention, a few notes on special details will now be presented.

Regarding architectural details, be it said in general that we are inclined, in America, to be too conservative; we are inclined to look too much at our neighbours' houses before we build for ourselves. Consistency is admirable, but the expression of a little individuality may save consistency from degenerating into monotony. In details both inside and out most American houses show very little imagination, and reflect no specific personality. The same is true of plans. It seems unfortunate that even the casual passer-by should be able, from a glance at the average American house, to know exactly how the rooms within are arranged. The modern English dwelling is full of architectural surprises—if anything, individuality and irregularity are carried to extremes which are sometimes not entirely desirable.

Reverting to our subject in hand, however, the prospective builder will avoid a certain amount of confusion if he remembers that there are two kinds of detail—*exterior* and *interior*, and that both these details are again divided into two kinds—details of *design*, and details of *material*.

Good procedure in deciding upon certain details, if one be reasonably familiar with them through pictures

or observation, is to make a list for *exterior* and *interior*, and for *design* and *material*. It is obvious that ultimate choice in matters of detail will be governed by several conditions, such as style, cost, efficiency and the like, but it is well to seek some means by which one will not fall into the mistake and inevitable confusion of thinking, at the same time, of the design of a chimney and the hardware on a closet door. A simple system of listing may save the prospective builder from forgetting some very important detail, which, remembered at a later stage of the work, will necessarily be figured in as an "extra."

Let it be assumed that the style and material of the exterior have been finally settled upon, and that the prospective builder is relying upon his architect to see that all ordinary matters of construction are properly carried out. It is safe to say that no prospective builder (unless he has built before) possesses sufficient knowledge to make intelligent suggestions in such matters as excavation, mason work, framing or finished carpentry. There are, however, a number of things he would like to take up with his architect for discussion, and for probable inclusion in the drawings and specifications—and these things the architect would be decidedly glad to know at the start. It should always be remembered that the more an architect knows about his client's requirements and wishes, the better service he is able to render.

It is suggested, therefore, that the prospective builder prepare two lists, each subdivided as indicated above, and that he embrace in these lists all those points upon which he wishes to obtain the architect's professional opinion and advice. Some details he may find too expensive to come within his limited expenditure—

others he may be pleasantly surprised to find are not nearly so expensive as he had always supposed.

The following lists cannot attempt to include every detail in which every prospective builder might be interested—it is intended merely to show the form in which such lists might well be prepared, and to offer as reminders certain details which are frequently overlooked until too late, in concern and attention directed upon the more general aspects of the house. These lists, then, may be curtailed or amplified by the prospective builder to fit his particular case—their only fixed essential being their form, or division into details exterior and details interior, and each of these into details of design and details of material.

The style of the house, its general material, and the disposition of the plan, as stated above, are assumed to have been decided upon before the preparation of these detail lists. It will be seen upon a survey of the following details that certain of them involve coincident consideration of design and material, one influencing the other.

EXTERIOR DETAILS—DESIGN

Moulded brick, terra-cotta, tiles.	Exterior ornament:
Ironwork.	Plasterwork.
Weather-vanes and sun-dials.	Carving.
Shutters.	Chimneys and chimney pots.
Windows:	Gutters and rain-leaders.
Bays, casements, and French windows.	Screens and awnings.
Porch, door-hood, etc.	Walks.
Front door and its hardware.	Terraces and courtyards.
Lanterns.	Fountains and pools.
Potted bay-trees.	Trellage and trellises.
Pergolas.	Flower-boxes.

316 THE PRACTICAL BOOK OF ARCHITECTURE

EXTERIOR DETAILS—MATERIAL

Moulded brick, terra-cotta, tiles.	Paint or stain for trim and side-walls.
Roof-tiles and slates.	Gutters, flashings and leaders.
Thatched roof effects.	Copings—terra-cotta, stone, slate, tile.
Special face brick.	Walks, terraces, courtyards.
Texture and color of stucco.	Tile, brick, flag, cement.
Paint or stain for trim and shutters.	

Before presenting a similar dual list of certain interior details of design and material, it might be of value to amplify the above list with a few brief comments.

Many exteriors may be given added interest by even slight departures in detail from the commonplace. Interesting effects have been obtained in brick and stucco houses by the use of moulded bricks for such details as the divisions between windows (mullions), or for window-sills and other horizontal courses. Moulded terra-cotta, also, either unglazed or with a "matt" surface, and red, white or polychrome in color, may often be happily introduced in panels, friezes, spandrils or lunettes, especially in the stucco house. Here great interest may be added, and the only caution is to *concentrate* any such embellishment in certain places rather than have it scattered confusingly about. Window-heads, for instance, may be enlivened by the introduction of coloured terra-cotta, or a gorgeous coloured frieze may well be placed up in the shadow of the overhanging eaves. In some instances, it may be permissible or even commendable to introduce cement casts of ornamental placques, cartouches or bas-reliefs in a wall of stucco, whether or not there is also a certain amount of brick work. Houses derived from Spanish or Italian types are the most appropriate for such embellishment.

Tiles are of several kinds, broadly divided into tiles structural and tiles decorative. Despite the division, each kind may partake of the uses of the other. The most familiar structural tile is the square red tile (called a "quarry tile," from the French *carré*, square). This tile is usually seen used as a flooring for terraces, court-yards, roof-gardens, sun-rooms and the like, though other effective uses have been evolved, such as quarry-tile window sills, or quarry-tiles inlaid in stucco walls to break the monotony of uniform surface.

Decorative tiles, of which a great many fascinating varieties are made to-day, may find an equal variety of equally fascinating uses in stucco houses. Spanish architecture, especially, is characterised by its extensive use of decorative tiles, which bespeak, in the buildings of old Castile, one of the most conspicuous of the Moorish influences.

Exterior iron work is to be considered as appropriate only to houses of brick, stone or stucco. To place an iron railing on a wooden house is obviously incongruous.

Many peculiarly interesting effects may be obtained by the judicious introduction of iron work, at comparatively small expense. Delicate iron railings and iron grilles form one of the most charming features of Spanish architecture, as well as of Italian architecture, though to a lesser extent. Brick Georgian architecture has also an associated type of iron work which adds remarkably to design in this style.

Thought of weather-vanes and sun-dials (built vertically into a wall) suggest at once the English country house—and it is by virtue of the introduction of such seemingly inconsequential "architectural incidents"

that the English country house, both early and modern, attains much of that quality of the picturesque which we sometimes seek (in vain) to emulate.

The design of shutters is of special importance in modern adaptations of any of the "American Colonial" types of dwelling. The earliest American houses had solid shutters for all their windows, for actual protection against the Indians, and later, as a sort of surviving custom or habit, only the first floor windows had solid shutters, while the upper windows had none, or lighter ones. Certain designs were used as patterns for the apertures cut in the solid shutters, and these varied according to locality and period. Notably there were half-moons, hearts, acorns, trees, shields, diamonds, spades and clubs. In the simple house of local stone, or of white-painted clapboards, there is little opportunity for interesting detail, and charming effects have been obtained by the application of a little ingenuity and resource in the revival of these old shutters, with their quaint hinges, stops and latches.

Of window design there is much to be said—indeed the question is too important, as a whole, to class as a "detail." Bay-windows, however, may properly be regarded as details, as well as casement and French windows. In general, the grouping or massing of windows is to be recommended, on grounds of more pleasing appearance, exterior as well as interior. Three windows together, furthermore, seem to admit more light, and to create an impression of greater space in a room than the same three windows separated by wall-space.

The story of the casement window has been written in many magazine articles, and has become, after years of misunderstanding, a reasonably familiar one to the



Duhring, Okie & Ziegler, Architects

QUAINTLY ARRANGED DOORS AND WINDOWS GIVE CHARACTER TO THE
DETACHED DWELLING

Such details as the above are the result of imaginative design rather than extra expenditure



Barry Parker and Raymond Unwin, Architects



TWO TYPICAL EXAMPLES OF THE MODERN ENGLISH COUNTRY HOUSE

No architects have excelled the English in the contrivance of dwellings designed in the vein of the picturesque. Irregular plans, correspondingly irregular roof-lines, and the prevalent use of casement windows are important contributory factors

prospective builder. No one can deny that the casement window, whether of wood or metal, is by far the most picturesque of all windows. It is, in fact, one of the most important single details contributory to the charm of the English country house. Casement windows, perhaps, are a little more difficult to clean than double hung windows, but even this comparatively slight objection is overcome if each unit is kept within an eighteen-inch width limit. Not only for practical reasons, but in point of design it is far more desirable to mass a number of small casement units to fill a large window opening, than to attempt to make each casement awkwardly large and wide.

The use and popularity of casement windows has been largely increased by the yearly improvement of casement hardware, and by the manufacture in America of metal casements. Suffice it to say that no one of the objections commonly put forward against casement windows should be regarded as valid by anyone who really wishes to install them in a house.

The introduction of French windows, which are, in fact, glass doors, will be found to add a noticeable degree of light and a sense of spaciousness to any room, besides affording convenient access to porches and terraces. French windows may be made perfectly secure by equipment with "Cremorne bolts," which operate from a knob or handle (placed as a door-knob) metal rods which lock into pockets in the sill and head of the window-opening.

The porch, of course, should be very carefully considered in detail, and the prospective builder cannot direct too much study or observation upon various kinds of porches and front doors in order to determine exactly what type he wishes. Certain styles of house

naturally dictate, to some extent, the design of the porch, though even if this be the case, there is likely to be a certain amount of detail to determine. A Dutch door, cut horizontally in the centre, is more expensive to build than a solid door, and should be decided upon at once, if the house is of a style to render it suitable. Hardware is an important detail in connection with the front door, and should be given a careful study. Nor should the door-light be forgotten, whether it be some quaint wrought-iron lantern, or a simple electric bowl or globe to guide the visitor's steps at night. Few simple accessory details can contribute more to the effectiveness of an entrance than a pair of formal bay-trees, planted either in boxes or large terra-cotta jardinières, while an alternative, especially appropriate to the entrance of any house of Latin derivation, is the placement of a pair of large Spanish or Italian water-jars, now reproduced in glazed terra-cotta.

If a pergola is to be regarded as a part of the house, rather than of the garden, its detail should be taken up with the architect, because such items make expensive "extras," and might, with but little thought, be included in the first estimate.

Exterior ornament plays no very great part in American domestic architecture, and certainly is not used in the manner of the English architects. Ornament merely for the sake of ornament, of course, is never desirable, and in any case it should be applied both sparingly and intelligently. Ornament for the sake of decoration may often add distinct interest to an exterior. A beam or bracket may be carved, or incident may be affected by the English device of ornamental exterior plaster work. Surface ornament is

often a feature of the "modernist" houses of the American Middle West, and often one of their most attractive details. Here, however, the motifs are intentionally unhistorical and unprecedented, while more conservative possibilities are to be discovered through a study of modern English work.

A very important detail of exterior design is the chimney, which may make or mar the whole exterior aspect. There are endless possibilities for picturesque proportion and detail, regardless of the material of the house itself. A chimney, to be sure, is a utilitarian feature which is nothing more than a smoke-stack, though this is no reason why its architectural treatment should be keyed down to the level of the commonplace. Every historic type of building has its characteristic type of chimney, and any chimney may be made highly interesting. The "chimney-pots," so familiar in all English buildings, are, from the practical point of view, intended to aid the drafts of each flue by narrowing the top aperture and lessening the chance of downward gusts of wind—besides which they effect an agreeable termination to the otherwise blunt chimney-top.

In considering gutters and rain-leaders, little expression of design has characterised these fittings of the American house as compared with those of England. Much interesting design was lavished on architectural metal work, especially in lead, in the English country house from late Tudor and Elizabethan times onward. The "leader-head," where two or more gutters converged into one rain-pipe, were often very elaborately detailed with ornament, dates or heraldic devices. One reason, no doubt, which has discouraged great elaboration of leader-heads in our own country

houses, is the fact that these are ordinarily made of zinc or painted tin, and are consequently not permanent like the heavy lead work of England.

The prospective builder will find it well to devote a little consideration to the question of screens and awnings at an early stage of his house design, by this forethought avoiding later complications, and later introduction of equipment which will fail to conform harmoniously with the entire building. It is hardly necessary to say that every door and window in the house should be screened.

Walks, terraces and court-yards might all be considered together, both in questions of design and material. In such details as these the English country house usually excels the American country house. Even a short paved walk from a street entrance to the front door may be made a charming and interesting detail, if it has been studied and treated as a part of the house.

Although fountains and pools may come more properly under the head of garden design than under the architect's part of the work, the prospective builder will do well to consult the architect in this connection, for he will receive much excellent advice. If a pool or fountain be part of the design of a patio, or of a terrace, it should be regarded as a part of the house design, and definitely referred to the architect. Most architects are the best judges of this kind of garden detail, and if a pool, for example, be included in the architect's design, it will naturally have a closer and more effective relation to the house than if it were carried out later by another designer.

In the design of the stucco house, or of the white-painted clapboard house, *treillage* and trellises may be

made a highly significant part of the scheme, adding detail, colour and interest to bare wall-surfaces, even before vines attain effective growth. *Treillage*, regarded purely as a decorative device, has but very recently come to be properly appreciated in this country, although the writer is familiar with a number of admirable examples, skilfully designed and very effectively employed. Many houses, too, have been quite transformed by flower-boxes, especially if these have been provided for trailing plants or vines, whose leaves and tendrils cover large wall spaces. Flower-boxes and curiously shaped *jardinières*, intended for trailing plants, have formed a very conspicuous detail in the designs of many of the "modernist" houses of the Middle West and the Pacific Coast.

The above paragraphs, taking up individually the several details listed as "Exterior Details of Design," are intended only to suggest in what manner the prospective builder may most effectively study the subsidiary parts of his house design. Rules, obviously, would be worse than useless in such matters, where the best procedure must always be dictated by personal fancy, stylistic suitability, cost limitation and the architect's advice, and a service is performed if only the prospective builder will feel impelled intelligently to notice and observe these and similar details in pictures and in houses with which he is familiar.

Among exterior details of *material*, there will arise questions of choice relative to roof-tiles and roof-slates, moulded brick, terra-cotta and structural tiles. If a shingle roof is called for, the several types of fireproof asbestos shingles should be investigated—or perhaps there may be a desire for a shingle roof devised in an effect of thatch. This, of course, will be found more

expensive than a plain shingle roof, and should be so recognized at the start.

One of the most important selections and decisions on exterior detail of material may be relative to the kind of "face-brick" to be used. The many varieties of special "texture" bricks, of special colours and shapes, are quoted at various prices per thousand, and the prospective builder will do well to familiarise himself with them either as used in an actual house, or by comparison from samples in the architect's office. It might be remembered that the architect is always able, by virtue of his specifications, to require the contractor to lay up a small section of wall "on approval," to be passed on by himself and the owner to insure such specific details as colour of mortar, and width and nature of mortar joints. The entire house, then, is specified to be built in strict accordance with this sample.

The same is true of stucco, whether applied on a hollow tile wall or on a frame wall with wire lath. Here the detail question will be one of *colour* and of *texture*, which may be obtained to conform exactly with the owner's and architect's requirements, before it is applied to any part of the house itself. If any doubt or uncertainty exists in the prospective builder's mind, either as regards the effect he wishes, or the contractor's ability to produce a specific effect he has in mind, exact results are most certainly insured through this expedient of experiment and demonstration by means of a small section of "specimen" wall.

In the house of brick, stone or stucco, the question of painting or staining arises only in connection with the trim and shutters, but as these are the only wooden details in the design, their colour should receive the most careful attention. If the roof is not of slate or



Duhring, Okle & Ziegler, Architects

MODERN AMERICAN "REAL ESTATE" HOUSES

Agreeable appearance has been combined here with ingenious planning. Each building contains four houses under one roof



**A ROW OF HOUSES IN THE FAMOUS ENGLISH "MODEL VILLAGE" OF
LETCHWORTH**

English architects, thanks to English property owners, have been several years ahead of American architects in the design of model villages and suburban neighbourhood planning



Willis Polk, Architect

**THE APPLICATION OF ARCHITECTURE TO BUILDINGS OF STRICTLY
UTILITARIAN CHARACTER**

It is apparent here that such buildings as this power-house may be made edifices of distinct
beauty as well as of practical utility

tile, there will be the question of shingle stain, unless it is intended to let the shingles weather to silver grey, dark grey and finally to a colour nearly approaching black.

The material for gutters, flashings and rain-leaders is a point for consideration at an early stage of the prospective builder's study of detail. Heavily painted tin is the least expensive, and also the least durable. Zinc, galvanised tin or galvanised iron possess more durability, at little greater cost. Copper is the ideal material, very expensive, but likely to last without replacement or repair, as long as the house. The use of heavy sheet lead for these necessary metal trimmings of every house, as in England, is exceedingly rare in this country. In Europe, entire roofs of lead are often seen—by all means an enduring material, though prohibitively expensive for all ordinary uses.

If the house is of such a character that there are brick or stone gable ends, or walls which require coping, detail of material again comes up in the form of the several possibilities of terra-cotta, stone, slate and tile—the choice usually dictated by style and by the materials used in the house itself.

Brick, tile, cement and irregular flag-stones offer themselves as materials for choice in the construction of walks or the paving of terraces and court-yards, and here again, the general character of the house may be a distinct factor in the selection, and this "detail of material" will be found very closely related to the question of design.

After a tabulation and study of these, and many other details, both of design and of material as related to the *exterior* of the house, the prospective builder may consider himself ready to direct his attention to

326 THE PRACTICAL BOOK OF ARCHITECTURE

details of design and of material and equipment as related to the *interior*, and may prepare as a reminder, a list more or less as follows :

INTERIOR DETAILS

Design	Equipment
Entrance vestibule.	Hardware.
Entrance hall.	Lighting fixtures.
Stairway.	Plumbing fixtures.
"Special rooms."	Bath-room equipment.
Fireplace and mantel-pieces.	Kitchen and laundry equipment.
Provision for furniture.	Heating system.
Glass doors and mirror doors.	
Types of door throughout.	
Special windows: leaded, etc.	
Panelling.	
Figured plaster ceilings and friezes.	

INTERIOR DETAILS—MATERIAL

Mantels: wood, tile, brick, stone.	Paints, stains, varnishes, waxes.
Tile floors.	For trim and floors.
Natures and costs of woods.	Plaster-paints, etc.
For floors.	Wall-paper.
For finish.	

It might be said in general, speaking not only of materials and equipment of the interior, but of the exterior as well, that the prospective builder may acquire a wealth of data and illustration by writing to those manufacturers who advertise in the numerous popular magazines devoted to home-building and country life. All manufacturers who so advertise have spent large sums of money in the preparation of what is known to the advertising world as "consumer literature," or catalogues and booklets setting forth in detail, by illustration, descriptive matter, and testimonial, the natures and merits of their products. While all such matter is, of course, to be regarded as

advertising, it contains a wealth of valuable information and instruction, offering, as well, data for comparison.

And, having studied all such catalogues and booklets on various building materials and equipment, the prospective builder has at his service the benefit of the professional knowledge and actual experience of his architect, who will be able to advise and recommend which of the several details may be best or most economically incorporated in the specifications of the house.

The entrance vestibule and entrance hall may, perhaps, have been duly studied in the plans, or left to be studied when the plans are drawn—it is spoken of in this chapter as a “detail” because it may be intended to floor it with tile, or to devise some special arrangement of coat closet or lavatory in connection with it. The entrance hall, too, might be floored with tile, which has recently been used considerably for this purpose, and with admirable success.

The stairway will usually prove to be the most difficult problem for the amateur planner, and while no very great success will probably attend his efforts at making a drawing for it, it is at least well for him to have devoted some thought and observation to the subject.

“Special rooms,” while not strictly to be classed among details, nevertheless involve special considerations and special equipment in the matter of hardware, lighting fixtures, mantel-pieces and the like. This is particularly true of “period” rooms, or of any room which departs from a “typical” character.

It should be apparent that fireplaces and mantel-pieces are questions of detail upon which the prospective builder should have fairly definite ideas. The fireplace itself, consisting of the actual mason work, will involve considerations of width and depth, according to the kind of fuel which is likely to be used; and its construction may or may not call for stock throats and ash-dumps of cast-iron. The architect, however, will be found to be fully informed on these points. The mantel-piece, which is the architectural frame for the fireplace, is to be dually considered as a question of design and material, each influencing the other to some extent, and the whole design being influenced to some degree by the general style or character of the house as well as of the room in which any given mantel-piece is to be constructed.

At this point might come some consideration of the furniture—either already owned, or to be acquired after the house is built, and while the study of placement may not be so accurately carried out as it can be on the working quarter-inch scale blueprints, it may at least take the form of a *list*, made up of the various rooms to be furnished, each listed separately. While furniture is being thus itemised, rugs might also be thought of, as well as any large family portraits or important paintings, since proper provision may thus better be made in the working drawings. While the plans are being drawn, it is an easy matter to place two doors, for example, in such relationship with each other that there will be a perfectly proportioned space between them in which to hang a large painting. If the placement of the painting is an afterthought, the space will either be a permanently inharmonious setting

for the painting, or its alteration to fit will necessitate troublesome changes on the drawings or expensive changes in the actual building.

Pursuing the list of suggested details, the question of *doors* next engages the attention of the prospective builder, and it will be well to list the bed-room or bath-room doors which will be full mirror doors, and to know that these may be had, ready made, in stock sizes which are by no means expensive. The mirror door is an excellent adjunct for the small room especially, saving the space of a cheval glass, besides increasing the apparent size of the room. And no guest-room should be without a mirror door, even if the glass be placed on the inside of a closet door.

Another type of mirror door is of familiar use in most modern hotels, but by no means inappropriate for certain uses in a private dwelling—the mirror door divided into small panes (the divisions called “*mun-tins*”). This type of mirror door may be very cleverly used in connection with clear glass doors which are also divided into small panes. Let us suppose a dining-room, where a pair of small-paned doors, of clear glass, separate the room from the hall, and other similar doors give upon a porch or sun-parlor. There are still other doors, to closets, perhaps, as well as the service door to the kitchen. Here mirrors may be used instead of clear glass, the similar detail of the small panes effecting a harmonious door equipment for the whole room. This type of door is not to be had ready-made, but must be detailed by the architect, and, if not thought of in advance, would necessarily constitute an “*extra.*” For the other doors throughout the house, a variety of excellently built “*stock*” or ready-made doors will be

found—the merit of their design increasing yearly, with the same advance which has marked all “stock” building equipment, including furniture.

While studying the question of doors, windows will also come under consideration, and thought should be given regarding which windows, if any, will be of a “special” nature—as casement windows, French windows, or windows with leaded panes, or small diamond-shaped panes, or, in fact, any type of window which is a departure from the regular stock double-hung window, the product of the “sash and blind factory.”

Wood panelling in any of the rooms, whether simple or elaborate, should obviously be included in the “interior detail” list, and should be taken up with the architect early in the plan-drawing and estimating for the house. While panelling is an interior detail involving greater expense than the plain plaster-finish, it is by no means so expensive as many prospective builders suppose, especially in small rooms and hallways.

The English type of figured plaster ceiling has been increasing in popularity and use in this country, and, together with the figured plaster frieze, or a figured plaster beam-treatment, may prove an important and effective detail in certain rooms of the house. Some excellent figured plaster ceilings are obtainable in stock designs accurately based on fine historic models, while in other cases the architect will design a special ceiling to meet special requirements.

With these, and other points of detail listed for discussion with the architect, and for investigation of cost and practicality, the prospective builder may make his list of interior details of *equipment*.

In the matter of hardware, he will find a remarkable variety of really good “stock” designs on the market,

and these designs he will be able to study in elaborately illustrated catalogues which are supplied to architects, and he will be able in every case to secure samples on approval through his architect. Good hardware is not cheap, and cheap hardware is not good, so it is well for the prospective builder to make as liberal a "hardware appropriation" as possible. The lower grades of cheap hardware would be dear at any price, while "high medium" and "high" grades of hardware may be regarded in the light of an investment, giving a permanent additional value to the house, besides giving far greater satisfaction in utility and appearance.

The same facts are true of lighting fixtures, which, if poorly chosen, may mar the effect of an otherwise pleasing interior. And in the field of "stock" lighting fixtures, as well as of "stock" hardware, a great advance in meritorious design has been made in the last ten years, so that the consideration of "special" hardware or lighting fixture is exceedingly rarely met with.

Plumbing fixtures are made in several grades, of which even the "lower medium" to-day are considerably better than the best of twenty years ago, and of which, however, the best grades to-day are not to be regarded as too good for installation in the house which is being built with ample expenditure. There is an excellent variety in the items now offered for bath-room equipment, and its importance in the comfort and convenience of the home should make it a detail of prime importance in the planning of any house, whether large or small. Kitchen and laundry equipment, whether or not entirely in the province of the architect, should have its place on the preliminary detail list, as it will involve a certain expenditure which should be approxi-

mately established in advance. The aim of modern equipment for kitchen and laundry is toward the development of "household efficiency," and comprises a variety of electrical inventions, as well as labour-saving "kitchen cabinets" and the like, and artificial drying closets and other devices for the laundry—all of which, if one be thorough in the compilation of detail lists, may well be investigated and duly listed.

Last, but not least (and usually taken up very seriously with the architect), is the heating system, which cannot receive too much thought or careful attention, since it makes or destroys the comfort of the whole house. Special study, in this connection, should be given to exposures and to the heating of any rooms which seem likely to present difficulties—rooms built over porches, or in wings where two or three of the walls are outside walls. Every room of this kind should be provided, if possible, with an ample open fireplace in addition to the general heating, and every possible precaution should be taken to avoid the "always cold" room which has so greatly distressed many a householder—and, as well, many a guest beneath his roof.

It should be remembered, however, that it is always possible to encounter some abnormal condition, and that the best which can reasonably be expected of architect and builder is a thorough and conscientious consideration of every knowable point involved in specifying, laying out and installing the heating system.

It will be found upon study and acquaintance that details of material are often inseparably involved with details of design, as was suggested in a foregoing paragraph relating to mantel-pieces, and the same is true of many other details as well.

Floors, however, involve consideration of material rather than of design, and it will be well for the prospective builder to acquire this part of his information from the architect, who will be in a position to present samples and data on various woods. Not only are there several kinds of wood ordinarily used as material for floors, but each kind is marketed in varying grades, intended for use in different kinds of buildings. The architect's specification should be absolutely definite on this point, and the client should be given his choice, on cost and durability basis, of the kind of flooring he will buy. As in most questions of detail, specific advice is dangerous, and may well prove misleading. It should be remembered, however, that floors are an exceedingly important detail in any house, and are an unwise direction in which to practise economy, if economy be necessary.

Woods for general interior trim—door and window frames, base-boards and the like—form a subject for a special study in themselves. Distributors of such native American woods as cypress, red gum, pine, fir, California redwood, etc., have prepared interesting booklets for the prospective builder, wherein are set forth the various properties of the several woods commonly used for interior finish—their possibilities and limitations, as well as various ways in which they may be stained and finished to preserve the effect of the grain, or may prove suitable as a base for paint or enamel.

Information derived from such sources will prove of great interest and value to the prospective builder, who has always his architect to whom to go as a court of last resort, if too much data has led to mental confusion in the matter of choice. In any case, the pros-

pective builder should make himself reasonably familiar with the more commonly used native American woods, and be able to distinguish one from another, by sight and by personal preference. Each kind of wood has its individual set of recommendations, based on considerations of cost, availability, suitability, appearance and finishing possibilities, and all these should govern intelligent choice, whether independently, or in conference with the architect.

Questions relating to paints, stains, varnishes and waxes will naturally arise in connection with the study of woods for interior finish—and here several of the larger and more progressive manufacturers have developed for prospective builders and architects a service which goes further than the mere preparation of printed matter. These manufacturers will send samples of any desired finish on any wood capable of receiving such a finish, and will even make up samples using pieces of the wood which will actually be used for the interior finish of a given house. Each sample is accompanied by detailed instructions for its proper application by the painter, so that no room for uncertainty or possible disappointment is left. It should be obvious that such a method of determining wood finishes throughout the house excels in value any amount of undirected general advice. Varying conditions call for varying finishes, so that it is as impossible as it would be futile to offer random advice. Modern tastes in wood finishing favour the aid of artifice to nature in bringing out the natural beauties of grain and sometimes of texture, characteristic of different woods. In this connection, a paragraphic reminder of former ignorance and bad taste is introduced—allusion to a practice

as indefensible as the once popular practice of painting brick work—the old deception of painting wood-grains.

We need not look far to find still in existence examples of this once highly esteemed art of “graining,” by which a dexterous painter (taught to excel in this particular kind of artistic knavery) could, with a few skilful strokes, make your soft pine door as of strangely and wonderfully figured oak or circassian walnut—a thing of monstrosity and a crime forever. Encouraged by their success in this direction, the painters (often with misguided skill) fabricated rare marbles on plaster or wood, quarrying these from their paint-pails. But we must not blame them, for the “architects” of that time allowed them to do these horrible things, and, we are to suppose, even encouraged them.

An interior finish of recent development is the so-called “plaster-paint,” intended for use on “sand-finished” plaster walls where no wall-paper is to be hung. The finishes exist in many varieties, and in harmonious colours, and are finding wide acceptance in the interiors of the American homes of to-day. The prospective builder should decide which of his rooms, if any, are to be papered, and with what paper, and should make similar decisions regarding plaster-paints. All such questions duly studied and resolved at the beginning will increase the certainty of securing the completely satisfactory house.

The writer wishes to repeat an earlier statement that the questions of plan and detail briefly discussed or merely mentioned in the foregoing paragraphs are not to be taken as constituting a list in any sense comprising every point of detail which will arise in the contemplation of every house. Such a list, obviously, would be both involved and dangerous. It has been

the intention, rather, to outline a plan of systematic thought on the part of the prospective builder—systematic thought designed to perform the valuable service of defining his ideas and directing his personal observation of detail in such a way as to eliminate as much oversight as possible, and to make for greater effectiveness in preliminary conferences with the architect.

Everyone about to build a house is confronted by a problem which is personal and individual, despite its conformity with certain rules and observances of common or general application.

The writer has always considered as distinctly “dangerous” the greater part of the definite “advice” usually offered to prospective builders, in books and magazine articles, for the reason that no latitude is allowed for special conditions which arise in the course of every building project. It should be regarded as of greater value to outline a method by which each prospective builder may do his own thinking, sharpen his own observation, widen and define his own knowledge, rather than to present him with a general dictum (possibly applicable) which he is directed to follow blindly and without regard to specific individual conditions. An ounce of personal understanding and intelligent thought is worth a ton of arbitrary rule, and it is with this conviction in mind that every prospective builder should approach his problem.

He should know when his own preference and judgment are his best guidance, and should know, by the exercise of what he has learned, when he had better turn toward experienced professional advice and judgment.

It has been the consistent intention of this book to

treat of the subject of architecture in a practical way—to remove it from the realm of mystery and technicality, and to make it seem, in every respect, a vital and interesting part of the life of every one of us. A familiarity with architecture, even if it be slight, will open many doors of interest, and will enrich that intellectual equipment which is generally known as a liberal education. Whether or not any individual contemplates building, or assuming any responsible advisory connection with any building project, let him look upon architecture as an open book, its chapters stretching back into the past, its development being written in the present, and its future dependent upon the efforts of our architects, and upon an ever-increasing understanding and appreciation on the part of the public.

“Si monumentum requiris . . . circumspice.”

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78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

INDEX

A

- Abacus, 74, 75
- Adam, Brothers, R. and J., 22, 84, 85, 87, 90, 140, 142, 178
 - in modern hotel, 217
- Adaptability, of materials, 277
 - of wood, 284
 - of stucco, 285
 - of rough-dressed stone, 296
- Advertising, of building products, 326, 327
- "Advice," misleading, 151, 153, 226, 233, 235-236, 304-305, 336
- Alberti, 63
- American Architecture, Colonial, etc., 173, 202
- Amiens, Cathedral of, 56
- "Andalusia," 191
- Anglo-Pennsylvania, 189
- Anne, Queen, style, so-called, 69, 84, 140
- Annulets, 75
- Apartment house, the, 218-220
- Apse, 42, 48
- Arch, 30, Roman use of, 37, 77;
 - Byzantine, recessed, 41; Assyrian, 44; Gothic pointed, 48; Norman, 52; Renaissance, use of, 64, 65, 66
- Architect, the, 227; proceeding
 - without, 232-233
 - employment of, 233
 - selection of, 239
 - architectural partnerships, 239-240
 - selection of, for public buildings, etc., 241
 - "specialists," 242
 - status of, and dealings with, 244 *et seq.*, 254
 - time spent on work, 246-247
 - legal forms of agreement with, 254-257
- Architect, the landscape, 270
- Architecture, definition of, 15-16;
 - understanding of, 17-19; appreciation of, 19; evolution in, 20; expressive, 24; appropriate, 24; structure, detail, mass, 28; types of building, 28

- Architrave, 74-76
- "Art Nouveau," 21, 103, 199, 202, 203-205, 206
- Assyria, architecture of, 32-33
 - summary of architecture of, 44
- Atrium, 36
- Atterbury, Grosvenor, 147
- Attributes, 81, 83
- "Audley End," 136
- Austin Hall, 111
- Availability, local, 279
 - of bricks, 293
 - of rough stone, 297
- Awnings, 322
- Axis, 95, 97

B

- Bagatelle, Château de, 82
- Baillie-Scott, 145
- Bar Harbor, 199
- Baroque, 70, 78-81
- Bartolommeo, 63
- Bath-room, 310-311
 - equipment, 331
- Bay-trees, formal, 320
- Beaux Arts, French Ecole Nationale des, 81, 82, 84
 - outline of, 94-96
 - teachings of, 96-98
 - detail, 98-100
 - influence of, 101-102
 - examples of, 102-105
 - aims of, 97-111, 168-169
 - façade of Grand Central R. R. Terminal, 221
- Bellevue-Stratford, (see Hotel)
- Bidlake, 145
- Bids, 259-261, 272
- "Biltmore," 167
- Blois, Château de, 57
- Blue-prints, 267
- Boston Public Library, 159
 - courtyard of, 171
- Bramante, 63, 159
- "Bramhall," 136
- Brick, Egyptian, 30, 44
 - Assyrian, 32-33
 - Byzantine, use of, 46
 - German Gothic, use of, 59
 - in Romanesque, revival, 112

- Brick, English, domestic use of, 136
 "Harvard," 180-181, 289-290
 burnt, 180-181
 early American, 184, 290
 patterns on blank walls, 213
 "special," 291-293
 building in, 288-294
 painted, 288, 291
 pattern in, 290
 moulded, 316-322
 colour, 291, 292
 house of, cost, etc., 275, 281
 293
 samples, 324
 face, 324
 texture, 290-292, 323
 Bruges, town hall, 58
 Brunelleschi, 63, 159
 Bryn Mawr College, 122
 Bulfinch, Charles, 177-178
 Bungalow, 198, 200-202
 Burgos, Cathedral of, 57
 Burlington, Earl of, 140-141
 Buttress, 48, 49, 137
 flying, 30, 48, 57, 129
 Byzantine, Architecture, etc., 38-44
 summary of architecture, 44
 conflict with Gothic in Italy, 61
 "Revival," 106-114
- C
- Ca'd'Oro, Palazzo della, 61
 Cambridge, 122
Campanile, 211
 Capitals, Byzantine, 41, 45; Gothic,
 49; Doric, 74; Ionic, 75; Corinthian,
 75
 Caracalla, Baths of, 96, 160
 Carolinas, The, 190
 Cartouche, 99, 103
 Caryatid, Flemish Renaissance, 67
Casa, 172
 Catalogues, etc., 326, 327; hard-
 ware, 331; woods, 333, 334
 Cathedral, typical plan, etc., 47;
 Durham, 52; Chartres, 56;
 Rheims, 56; Amiens, 56; Notre
 Dame, 56; Burgos, 59; Toledo, 59;
 Milan, 101; St. Paul's, 69; St.
 Mark's, 107
 Ceilings, Tudor, 137; Elizabethan,
 138; Adam, 142; figured plaster,
 326, 330
 Centennial, Philadelphia, 196
 Century Club, 161
 Character, in materials, 275-277
 in brick, 292; in rough stone,
 296
 Charges, 245-246, 248-249, 254, 257
 Chartres, Cathedral of, 56
 Châteaux, Blois, 57; Langeais, 57
 French Renaissance, 67
 de Bagatelle, 82
 adapted, 166; Hfe, 166-167,
 172; in modern hotel, 216
 Chimeras, Gothic, 50, 51
 Chimney-pots, 321
 Chimneys, design of, 321
 Chinese, influence of, 23, 79, 142
 Church, early Christian, 40; St.
 Mark's, 40; Byzantine, 41,
 45; Gothic, 47; Norman, 52
 of Malines, 58
 S. Maria della Salute, 64
 Trinity (Newport), 179; Trin-
 ity (Boston), 109; Madison
 Square, 113; St. Joseph's,
 113
 First, Christ Scientist, Los An-
 geles, 113; New England
 type, 179-180; early Ameri-
 can village, 179-180, 230;
 "Gloria Dei," 187
 Cincinnati Chamber of Commerce,
 111
 City house, 208-210
 modern developments of, 209-
 210
 Clap-boards, 176, 281, 285
 Classic ideal, origin of, 34, 36, 73-
 105
 nature and meaning of, 73
 in England, 85
 Closets, 310, 311
 Collegiate Gothic (see Gothic)
 College of the City of New York,
 122
 Colonial, Georgian, 173-183; Dutch,
 183-187
 adaptability of Dutch, 186-187;
 Southern, 190-193; Spanish,
 193-195, 285, 318
 "Colonnade Row," 88-89, 108, 196
 Colosseum, 77
 Colour, Egyptian use of, 31
 Byzantine, 41; Greek, 45
 in Italian Gothic, 61
 in brickwork, 181, 290-292

- Colour, Dutch Colonial, 185
 in materials, 275, 278
 local, 278
 of wood, 284
 Columbia University, Chapel of, 113
 Columns, and lintel, 29
 Egyptian, 30, 44
 Greek, 33-35, 44-45, 74-78
 Roman, 36, 37
 Byzantine, 41, 45
 Gothic, 49
 Renaissance, 64, 65, 72
 Doric, 74
 Ionic, 75
 Corinthian, 75
 of wood, 284
 Competitions, 241-242
 Compiègne, 83
 Composite Order, 77
 "Compton Wyngates," 54
 Connecticut, 178
 Console, 99, 103
 Consultation, 247, 254, 248-250
 Contractor, 259-264
 "Coombe Abbey," 136
 Coping, 325
 Corinthian Order, 35; Roman, 37;
 Greek, 75-77
 Cornice, Doric, 76; Ionic, 76, 112;
 Corinthian, 76-77
 Cost, 256, 275
 comparative, of materials, 281-
 283
 inherent, 279
 of brick, 293
 in building materials, 181
 of rough stone, 297
 of half-timber, 298
 Country-house, origin of, 53-55
 Elizabethan, 68, 135
 Gothic derivation, 130-131
 English type, 133
 History of the English, 134-
 145
 Jacobean, 139-140
 Anglo-Classic, 141-142
 modern English, 144-155
 summary of English type, 156
 location, material, site, 225-243
 materials and construction,
 224-303
 plans and details, 304-334
 Courtyards, 322, 325
 "Craftsman," 198-200
 Cremona bolts, 319
 Creoles, French and Spanish, their
 architecture, 175, 185, 192-193,
 285
 Customs House of New York, 98

 D
 Davanzat, The, 64
 Dawber, 143
 Decoration, Egyptian, 31, 44
 Assyrian, 44
 Greek, 45
 Roman, 45
 Byzantine, 46
 Romanesque, 46
 Spanish Gothic, 59
 Gothic, 72
 Renaissance, 65, 72
 Fresco, 65
 Sgraffito, 65, 72, 158, 161
 "Secessionist," 205
 Decorator, 270-271
 Delaware, 174, 190
 Dentils, Ionic, 76
 Corinthian, 76
 Derivations, importance of study of,
 23, 28
 Classic, 73-105
 Byzantine, Romanesque and
 Gothic, 106-131
 English, early and modern, 132-
 156
 modern English, 147-155
 Italian, French, Spanish, 157-
 172
 Italian, 157-166
 French, 166-169
 Spanish, 169-172
 era of, 197
 scale, 267
 full-size, 267-268
 Despradelles, 102
 Details, exterior and interior, 313
 design and material, 313
 discussion of, with architect,
 314
 exterior, design, list, 315
 exterior, material, list, 316
 interior design, list, 326
 interior material, list, 326
 interior equipment, list, 326
 Directoire, period of the, 82
 Doges, Palace of, 61
 Dorne, Byzantine, 41, 45

- Doors, Dutch, 185, 187, 320
 hardware, 320
 light, 320
 mirror, 129
- Doric, Order, 31, 33
 Roman, 36, 77
 Greek, 74, 75, 89
- Drawings, preliminary, 253, 265, 273
 working, 253, 265, 266-269
 required, 265, 266-269
 ¼-inch scale, 266
 scale details, 267
 full-size details, 267-268
 ownership of, 256
- Drives, 228
- Dry wall, 295
- Duplex apartment, 219
- Duquesne, 102
- Durability, of materials, 277
 of frame house, 283
 of brick, 292
 of stone, 296
- Durham, Cathedral of, 52
- Dutch, Colonial, 183-187, 285
 doors, 185, 187, 320
 shutters, 185, 187, 318
 brick, 184
 interiors, 185, 186
 hardware, 187
 city house style, 208-209
- E**
- Eastlake, Charles, 143, 197
- Egypt, architecture of, 29-30
 summary of architecture of, 44
 French "Empire" revival, 83
 in modern hotel, 216
- Elevations, preliminary, 253
 ¼-inch scale, 266
- Elizabethan, 55, 68, 131, 135-138
- Empire, The, Period, French, 79, 82-83
 American, 88-90, 195-196
- Enlargement, future, of plan, 307-308
- Entrance, detail, etc., 327
- Entablature, Classic, 74-75; Doric, 76; Ionic, 76; Corinthian, 76-77, 104, 176
- Equitable Building, 211
- Estimates, 252-253, 256
 contractors, 259-261
- Ethics, professional, 247-248, 270
 canon of, American Institute of architects, 239, 270
- Evolution, in architecture, 20-21
- Expenses, architect's travelling, 254, 258
- Expression, 259
- Extras, 249-252, 254
- Eyre, Wilson, 147, 189
- F**
- Fan-light, 176
- Fee, architect's, 254, 257-258
- Fieldstone, 294
- Finial urns, 103
 obelisks, 140
- Fire-places, 328; Gothic, 138
 Elizabethan, 138
 details of, 328
- Flashings, 280, 325
- Flèche, 280, 325
- Floors, 333
- Flutes, fluting, 74, 75
- Fontaine, 83
- "Fontainebleau," 83
- Fountains, 322
- Frame, house construction, 282-286
 shingle covered, 225, 281
 clap-board covered, 275, 281
 stucco on wire lath, 275, 281, 285-286
- Francis First, style of, 67
 for city house, 209
- Fresco, decoration, 65, 72, 142, 158
- Frieze, Doric, 76; Ionic, 76
 terra-cotta, 316
 figured plaster, 326, 330
- "Full-size" (see Details)
- Furniture, consideration of, 309, 328
- Furring, 287
- G**
- Gables, half-timber, 298-325; Jacobean, 139
- Garage, 287, 310
- Garden, Italian, 23
 Anglo-Classic, 85
 Anglo-Italian, 134
 garden front, 153-154
 garden front of Tangley Manor, 299
 American derivation, 165-166
- Gargoyle, Gothic, 50, 51, 57, 72
 Woolworth, 129
- Georgian, Period, The, 69
 Colonial in America, 86-88, 84-88, 140-143, 173-182, 189, 285
- German, early colonists, 187

- German Gothic, 58, 59, 72
 Classic revival, 92-93
 Gibbons, Grinling, 138
 Gibbs, 85, 140
 "Gloria Dei" Church, 187
 Gorham, 161
 Gothic, 38; origins of, 43
 analysis and outline of, 47-62, 71
 English, 52-56, 71
 Norman, 52; "decorated," 52
 "Perpendicular," 52
 "Collegiate" (Scholastic), 55, 56, 61, 114, 121-122
 French, 56-58, 61
 Flamboyant, 56, 57
 crockets, 57
 Belgian, Flemish, 58, 61
 German, 58-59, 72
 Italian, 60-62
 Italian, secular, 61, 62
 compared with Classic, 23
 Victorian revival, 90, 91, 114, 143
 "carpenters," 91
 "military," 114, 122-124
 nature of, 114-116
 symbolism in, 116-121
 "commercial," 124-129
 English country house, 137
 Grain, of wood, 334
 imitation, 335
 Grand Palais des Champs-Élysées, 102, 103
 Grant's Tomb, 105
 Greece, architecture of, 33-36
 summary of architecture of, 44-45
 Groin, vaulting, 43
 Grotesque, Byzantine, 41; Gothic, 50-51, 57, 72; modern French, 102; Woolworth, 129
 Guilloche, 99, 103
 Gutters, 321, 325
- H**
- Hacienda*, 170
 "Haddon Hall," 134, 138
 Half-timber, Medieval, 55
 French Gothic, 57, 61
 Elizabethan, 137-138, 197, 209, 275, 278, 301
 cost of, 281, 300
 imitation, 298-299
 "Hall," The, 134
- Hardware, Dutch, 187, 326, 320, 330-331
 "Hardwick Hall," 134-135, 139
 Harvard, house, 54
 University, 102-112
 style, 180-181
 for city house, 208
 brickwork, 289-290
 "Hatfield House," 136
 Heating, 332
 "Holdenby," 136
 Holland, 184-185
 city architecture, 208-209
 Hotel, modern American, the
 Waldorf, 214
 theatrical qualities of, 214, 215
 "special rooms," 215
 Bellevue-Stratford, 216
 Ritz-Carlton, 217
 Vanderbilt, 217
 Hudson, 183
- I**
- "Independence Hall," 179
 Inscriptions, Roman use of, 37
 Egyptian, 44
 Institute of Architects, the American, on competitions, 241
 for information, 242
 minimum charges, 258
 owner-architect agreement, official form, 254-257
 owner-contractor agreement, official form, 261
 Instructions, written, 245, 250-251
 Inwood, 90
 Ionic, Order, 35, 75, 76
 Iron-work, 317
- J**
- Jacobean, 55, 69, 136-141
 Japanese influence, 195, 205
 Jardinieres, terra-cotta, 320
 modernist, 323
 Jefferson, Thomas, 18, 191
 Jones, Inigo, 69, 85, 136
- K**
- Karnak, 30, 94
 Kauffmann, Angelica, 85
 "Keep," 134
 Kent, William, 85, 140
 Kitchen, equipment of, 331-332
 Knickerbocker Trust Building, 161
 "Knole," 136

L

- "La Grange Terrace," 88-89, 196
 Langeais, Château of, 57
 Langley, Batty, 87
 Lantern, 179
 Laundry, equipment of, 331-332
 Leaders, 321, 322, 325
 Lighting, 267
 fixtures, for front door, 320
 interior, 331
 Lindeberg, H. T., 147
 Linenfold, panelling, 137, 138
 Lintel, 29, 33, 35, 44, 45
 "Local conditions," 235, 253
 Location, 226
 Loft Buildings, 208, 212-213
 Loggia, 159, 161, 170, 171, 185
 Long Island, 183
 Louis XIV, 70, 79
 in modern hotel, 214
 Louis XV, 70, 79
 in modern hotel, 214
 Louis XVI, 70; formal phase, 81;
 details, outline and analysis
 of style, 81, 82, 96, 167-169
 in modern city house, 208
 in modern hotel, 214
 Louisiana, 175, 192
 Louvre, the, 79
 Lutyens, 145
 Lycrates, monument of, replica, 89

Mc

- McIntyre, Samuel, 177, 178, 185
 McKim, Charles Follen, 160
 McKim, Mead and White, 111, 158,
 159, 196, 292

M

- Madison Square Church, 113
 Maine, 178, 198
 Maintenance, 280
 of frame house, 286
 of brick house, 293
 of rough stucco house, 298
 of half-timber house, 301
 Malines, Church of, 58
 "Malmaison," 83
 Manor, 34
 Mansard roof, 80, 92
 Mansart, J. H., 79, 80
 Mantelpiece, 328
 Marquise, 100, 103

Masque, 81, 102

- Material, restrictions in choice of,
 274, 275
 properties of, physical and aes-
 thetic, 275-278
 colour, 275, 278, 279
 local suitability, 231
 field-stone, 231
 properties of, 275
 character in, 276
 durability, 277
 adaptability, 277
 mingled, 301-302

Medici, the, 64

Mellor and Meigs, 147

Metopes, 76

Metropolitan Museum, 98

Metropolitan Tower, 113, 211

Middle West, 321, 322

Milan, Cathedral of, 61

Military Gothic (see Gothic)

Mirror doors (see Doors)

Mission, 194-195, 200, 230-231, 287

Models, 227, 228, 272-273

Modernist, 202, 321

Modillions, Ionic, 76

 Corinthian, 76, 77

Mohawk Valley, 183

"Montacute House," 136

"Monticello," 18, 191

"Moreton Hall," 134

Morgan Public Library, 158

Morris, William, 144, 199, 200, 205

Mosaic, Byzantine, 41, 45

Moulding, Greek, 45

Mullion, 112, 139

Muntin, 139

N

Napoleon, 83

Nave, 42, 47

Neo-Classic, 82

Neo-Grec, 82

New England, Georgian, 86; native
 types, 175-183; suitable style,
 229-230

 field-stone, 231

New Jersey, 174, 188

New Orleans, 185, 192-193

Newport, 167-168, 197; Casino, 196;

 Trinity Church, 179

New York (State), 174

New York Public Library, 98

Nôtre Dame de Paris, Cathedral of,
 grotesque, 51; cathedral, 56

O

- "Ochre Court," 167
- Office buildings, Romanesque, revival, 113
 - Gothic derivations, 124-129, 208, 211-212
- Orders, Classic, the three, 35; Roman, 36-37; 74, 77; Greek, 45, 74-78
- Oxford, 122

P

- Pacific Coast, 193-195, 198, 200
- Paint, 324
 - plaster-paint, 335
- Palladian, 86
- Palladio, 63, 141, 159
- Pan-American Union Building, 171
- Panelling, 330
 - "linen-fold," 137-138
- Patio, origin of, 36; Spanish, 169, 170, 171
 - of Pan-American Building, 171, 172; Creole, 193
 - possibilities of the, 312
- Payments, 255
- Pediment, 76, 85, 99, 100
 - curved, 103, 176
- Pennsylvania, 174, 187-190
- Percentages, 257-258
- Percier, 83
- Pergola, 320
- Persian, influence on Modernists, 207
- Peruzzi, 63, 159
- Philadelphia, 179
- Pilasters, of "La Psalette," 57; Renaissance, 65-66, 72; Roman, 77; Jacobean, 138, 176
- Pittsburgh Court House, 111
- Placement of furniture on plan, 308, 309
- Plans, preliminary consideration, 236-237
 - drawing of, 266, 305-313
 - kinds of, 305, 306
 - development of, 306
 - relationship to style, 306
 - practical needs, 307
 - special requirements, 307
 - large, 307
 - small, 307
 - relationship to furniture, 308, 309, 328

- Plans, "reminders," 310
 - "special" rooms (period, etc.), 311, 327
- Platt, Charles, A., 164
- Plumbing fixtures, 234, 331
- Pools, 322
- Porch, 184, 185
 - sleeping, 311
 - design of, 319
- Portico, 85, 190
- Post Colonial, 195
- Post-office (New York City), 98
- Princeton University, Graduate School of, 122
- Projet, Beaux-Arts, 95, 272
- "Psalette," La, 57

Q

- Quarry tiles, 317
- Quoins, 176

R

- Railroad terminals, Pennsylvania, 160, 208, 220, 221, 220-222
 - Grand Central, 220-221
- Ramp, 221-222
- "Raynham Park," 136
- Real-estate houses, 155, 156, 242-243
- Renaissance, 35, 37, 38
 - English, 55
 - dates, 39
 - Florentine, Milanese, Venetian, Roman, 39
 - "High," 39
 - "Late," 39
 - English, 55, 68-70, 136, 137
 - outline and analysis, 62-71
 - summary, 72
 - origin and nature, 62-63
 - expression, 63
 - French, 67
 - summary of, 72
 - Flemish, 67
 - summary of, 72
 - German, 67
 - summary of, 72
 - Spanish, 67
 - summary of, 72
 - Italian, summary of, 72
 - comparison with Classic, 73
 - flexibility of, 157

- Renaissance, for modern city house, 208
 in modern hotel, 218
 Revett (and Stuart), 87, 90
 Revival, Classic, 34, 35, 69, 78
 in France, 78-84
 in England, 84-85
 in America, 86, 88-90
 decline of, in England, 90-92
 in Germany, 92-94
 under Louis XVI, 79-82, 105
 Georgian, 140-141
 Romanesque, 106-114
 nature of, Romanesque, 111
 Rheims, Cathedral of, 56
 Rhode Island, 179, 197
 Richardson, H. H., 104-114, 158
 Robinson House, 177
 Rock-faced (masonry)
 Rococo, 70, 78-81, 103
 in modern hotel, 216
 Roman (see Rome)
 Romanesque, architecture, etc., 38-44
 summary of architecture of, 46
 influence on Gothic in Italy, 61
 revival, 106-114
 characteristics, 107
 Richardsonian, 109
 nature of revival, 111
 expression in modern church, 113
 city house, 209
 country house, 114
 Rome, architecture of, 36-38
 summary of architecture of, 45
 Roofs, tile, 67, 169, 194, 197
 gambrel, 176
 Dutch, 183
 Mansard, 80, 92
 shingle, 176
 château, on modern hotel, 216
 details of material, 323
 Rouen, Palais de Justice, 57
 "Roughcast," 188
 Ruskin, John, 90-91, 108, 196
 Rustication, 89, 99, 104
- S**
- Sainte Chapelle Church, 56
 Salem (Mass.), doorways of, 86, 87
 Samples, 249-250
 of brick and brickwork, 324
 Samples, of stucco, 324
 of paints, stains, varnishes, 334
 Scale, 24
 meaning of, 25, 100, 101
 in Woolworth Building, 129-129
 in tall building design, 212
 working drawings, 265-267
 Schuyler, Montgomery, 109-110
 Screens, 322
 Sculpture, architectural, Roman, 45
 modern French, 100
 Secessionist, American, 198, 199, 202, 205-207
 Services, architect's, 254
 Sever Hall, 111, 112
 Sewage disposal, 227
 Sgraffito, decoration, 65, 72, 158, 161
 Shaw, Norman, 145
 Shingles, 275-281, 284
 stain, 325
 Shutters, 315, 318
 Site, 227-228, 230, 236, 253
 Solarium, 210, 311
 Spandril, 100
 Specifications, 233, 249, 261-265
 Stain, 324, 325, 334
 Staircase, Elizabethan, 138
 details of, 327
 Staten Island, 183
 Stevenson and Wheeler, 147
 Stone, rough-dressed, 275, 281, 294-298
 Stonemasonry, early Pennsylvanian, 188, 294-298
 Stuart (and Revett), 87, 90
 Stucco, Egyptian, 44, 170, 172
 on hollow tile, 275, 281, 285, 287, 323
 samples of, 329
 Style, 17, 21-24, 227, 230-231, 236
 Sub-contracts, 263-264
 Suitability, local, 278, 286
 stylistic, 278
 of frame construction, 285
 of brick, 293
 of rough-dressed stone, 296
 of half-timber, 301
 Sun dial, 317
 Sun parlor (see Solarium)
 Supervision, by architect, 245-247, 256, 258, 259
 Survey, 227, 255

Symmetry, 96, 97
 "Swedes," Old (Gloria Dei Church),
 187
 Swedish, early colonists, 187
 St. Joseph's Church, 113
 St. Louis University, 122
 Ste. Maria della Salute, Church of,
 40
 St. Mark's, Church of, 40, 107
 St. Paul's Cathedral, 69
 St. Peter's, Basilica of, 64
 St. Sophia, Mosque of, 107

T

Tangley Manor, Great, 136, 299
 Tapestries, 137
 Technology, Massachusetts Institute
 of, 102
 Temples, Egyptian, 29, 30, 44
 Assyrian, 44
 rock-cut, 30
 Proto-Doric, Beni-Hassan, 31
 Greek, 35, 36
 Roman, 37, 40
 garden, 85
 Terraces, 228, 312, 322, 325
 Terra-cotta, 112, 128, 316
 jardinières, etc., 320
 Woolworth Building, 127-128
 Texture, 275, 277, 278, 292, 296
 Thatch, shingle effects in, 323
 "Thorpe Hall," 136
 Tiffany, 161
 Tile, Assyrian, 33, 44
 Byzantine, 45
 Roofs, 67, 169, 194, 323
 hollow, 172, 215, 281, 286-288
 flooring, 317, 327
 structural and decorative, 317
 "quarry," 317
 Spanish use of, 317
 Times Building, 126
 Toledo, Cathedral of, 59
 Transept, 47
 Treillage, 311, 322, 323
 Trianons, The, 82, 83
 Triglyphs, 76
 Trinity Building, 126
 Trinity Church (Boston), 109
 Trinity Church (Newport), 179
 Trowbridge and Ackerman, 147

Trusses, 137
 Tudor, arch, the, 53, 56, 137
 country house, 54, 68, 134, 137
 collegiate architecture, 55, 56,
 61
 collegiate derivation, 122
 ceilings, 136
 leader-heads, 321
 Tuscan, Order, 36, 77

U

United States Realty Building, 126
 University Club, 161
 University of Virginia, 191

V

Vanderbilt (see Hotel)
 Vault, vaulting, Romanesque, 41-43,
 46
 rib, 42-43
 barrel, 42
 "groin," 43
 Gothic, 48
 English Gothic, 52
 fan-vaulting, 53, 62
 Renaissance, 72
 Veranda, 201
 Verge-boards, 54
 Versailles, 79, 167, 168
 Victorian Era, 84, 90
 Gothic revival, 90-91, 114, 143,
 146
 Vignola, 74, 77
 Villa, Pompeian, 29
 Roman, 37
 Italian, 22, 161-166, 172, 221,
 287
 Virginia, 190
 University of, 191
 Vitruvius, 15
 Volutes, spiral, 75
 Voysey, 145

W

Wainscot, 137
 Waldorf, The (see Hotel)
 Walks, 322, 325
 Water supply, 227
 Weather-vanes, 317

- Welsh, early colonists, 187, 188
 West, Middle (Chicago), 198-199,
 207
 Westminster Abbey, 53
 "Westover," 190
 West Point Military Academy, 123
 "Westwood," 136
 White, Stanford, 158, 180, 197
 "Whitehall," 190
 William and Mary, 69, 140
 Windows, casement, 136-137, 150-
 151, 175, 280, 318-319, 330
 oriel, 137
 Windows, bay, 137, 138
 dormer, 159
 "Wollaton," 136
 Woods, building, 283, 285
 for interior trim, 333
 Woolworth Building, detailed analy-
 sis, 126, 211
 Working drawings (see Drawings)
 World's Fair of 1893, 196
 Wren, Sir Christopher, 69, 185, 136-
 137, 140, 179
 Wright, Frank Lloyd, 190, 207
 "Wynnestay," 188

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